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IN THE

Supreme Court of the United States

OCTOBER TERM, 1973

No.

FEDERAL POWER COMMISSION, *Petitioner,*

and

ARIZONA PUBLIC SERVICE COMPANY, ET AL., *Intervenors,*

v.

CHEMEHUEVI TRIBE OF INDIANS, COCOPAH TRIBE OF INDIANS, COMMITTEE TO SAVE BLACK MESA, INC., EMMA YAZZIE, JIMMY YAZZIE, PAUL BEGAY, CHESTER HUGH BENALLY, BILL BEGAY, and THE SIERRA CLUB,

Respondents and Conditional Cross-Petitioners.

CONDITIONAL CROSS-PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

Petitioners Chemehuevi Tribe of Indians, Cocopah Tribe of Indians, Committee to Save Black Mesa, Inc., Emma Yazzie, Jimmy Yazzie, Paul Begay, Chester Hugh Benally, Bill Begay, and The Sierra Club respectfully pray that this Court agree to consider the questions presented in this conditional cross-petition, should it decide to issue a writ of certiorari to review the judgment and opinion of the United States Court of Appeals for the District of Columbia Circuit entered in these proceedings on November 9, 1973.

OPINIONS BELOW

The opinion of the Court of Appeals, entered on November 9, 1973, is not yet reported. The opinion of the Federal Power Commission, issued on November 4, 1971, and the Commission's decision on rehearing, issued on December 10, 1971, are also unreported. All three opinions are included in the Appendix.

JURISDICTION

The judgment of the Court of Appeals for the District of Columbia Circuit was entered on November 9, 1973. A timely motion for clarification of opinion was filed by the Indian petitioners on November 23, 1973. That motion was denied by the Court of Appeals by order dated December 11, 1973. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

QUESTION PRESENTED

Are steam electric power plants which permanently withdraw large quantities of cooling water from navigable waterways, thereby reducing the power potential of such waterways, subject to the licensing jurisdiction

of the Federal Power Commission as "project works" within the meaning of the Federal Power Act, 16 U.S.C. § 797(e)?

STATUTES INVOLVED

The Federal Power Act, 16 U.S.C. §§ 792, *et seq.*, provides in pertinent part as follows:

Section 3(8), 16 U.S.C. § 796(8):

"navigable waters" means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, and which either in their natural or improved condition notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows, or rapids, together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority;

Section 3(10), 16 U.S.C. § 796(10):

"Government dam" means a dam or other work constructed or owned by the United States for Government purposes with or without contribution from others;

Section 3(11), 16 U.S.C. §796(11):

"project" means complete unit of improvement or development, consisting of a power house, all water conduits, all dams and appurtenant works and structures (including navigation structures)

which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith, the primary line or lines transmitting power therefrom to the point of junction with the distribution system or with the interconnected primary transmission system, all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and occupancy of which are necessary or appropriate in the maintenance and operation of such unit;

Section 3(12), 16 U.S.C. § 796(12):

"project works" means the physical structures of a project;

Section 4(e), 16 U.S.C. § 797(e):

The Commission is hereby authorized and empowered—

* * * *

To issue licenses to citizens of the United States, or to any association of such citizens, or to any corporation organized under the laws of the United States or any State thereof, or to any State or municipality for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States (including the Territories), or for the purpose of utilizing the surplus water or water power from

any Government dam, except as herein provided: *Provided,* That licenses shall be issued within any reservation only after a finding by the Commission that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired, and shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation. *Provided further,* That no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dam or other structures affecting navigation have been approved by the Chief of Engineers and the Secretary of the Army. Whenever the contemplated improvement is, in the judgment of the Commission, desirable and justified in the public interest for the purpose of improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, a finding to that effect shall be made by the Commission and shall become a part of the records of the Commission: *Provided further,* That in case the Commission shall find that any Government dam may be advantageously used by the United States for public purposes in addition to navigation, no license therefor shall be issued until two years after it shall have reported to Congress the facts and conditions relating thereto, except that this provision shall not apply to any Government dam constructed prior to June 10, 1920: *And provided further,* That upon the filing of any application for a license which has not been preceded by a preliminary permit under subsection (f) of this section, notice shall be given and published as required by the proviso of said subsection. (footnotes omitted)

STATEMENT OF THE CASE

The conditional cross-petitioners are two Indian tribes, a committee of concerned citizens residing on the Navajo Indian Reservation, five Navajo individuals, and a national environmental organization ("the Indian petitioners"). Their health, safety, welfare, aesthetic enjoyment, and religious and cultural values are threatened by the operations of a giant energy complex consisting of six power plants and related facilities now in operation or under construction in the "Four Corners" area of New Mexico, Arizona, Utah, and Nevada. The environmental impact associated with the operation of a power plant complex of this magnitude is enormous. (See opinion of the District of Columbia Circuit Court of Appeals, pp. 12-16, included in the Appendix.)

All six power plants will permanently withdraw massive amounts of water from the navigable waters of the Colorado River system for cooling purposes—about 2 percent of the River's average flow (Circuit Court opinion, p. 15). The cooling water would be withdrawn from the River system by "the utilization of dams, pumps, and pipes in and along adjacent waterbodies" (Circuit Court opinion, p. 15). The Indian petitioners also alleged (Complaint, p. 9) that the six plants are using surplus water from a government dam for cooling purposes; this allegation has not been denied during the course of this litigation.

On the basis of these facts, the Indian petitioners filed a complaint and petition for order to show cause with the Federal Power Commission on September 10, 1971 requesting the Commission to require ten named public utilities to obtain licenses under § 4(e)

of the Federal Power Act, 16 U.S.C. § 797(e). They alleged that the utilities are constructing, operating, and maintaining "project works," as that term is defined in §§ 3(11) and (12) of the Federal Power Act, 16 U.S.C. §§ 796(11) and (12), for the development, transmission, and utilization of electric power across, along, from, or in navigable waters. They also alleged that the six plants would be using "surplus water" from government dams. The Commission, *sua sponte*, dismissed the complaint on November 4, 1971 on the ground that it had no jurisdiction over steam electric power plants. The Indian petitioners' application for rehearing was denied on December 10, 1971.

A timely petition for review was filed with the Court of Appeals for the District of Columbia Circuit on December 14, 1971. Nine of the ten utilities named in the complaint before the Commission sought and were granted leave to intervene, On November 9, 1973, the Circuit Court issued a unanimous, 75-page opinion, sustaining the Commission's dismissal of the "project works" claim. However, the Court concluded that the Commission had erred in dismissing the "surplus water" claim, since ". . . Congress surely intended to give the FPC control over the use of surplus waters for the generation of power, no matter by what mechanical force the electricity is produced" (Circuit Court opinion, p. 75). The Court remanded the case to the Commission to determine whether the six plants did, in fact, utilize "surplus water" from one or more government dams.

The Indian petitioners maintain that the Court of Appeals' resolution of the "project works" claim was erroneous. The power companies, in their application

for an extension of time within which to file their petition for certiorari, indicate they intend to contest the "surplus water" determination in this Court, and the Solicitor General has disclosed that the Commission will likely follow the same course. This conditional petition is filed in order to preserve the "project works" issue, should this Court grant the writ sought by the Commission and the utilities.

REASONS FOR ALLOWING THE WRIT

I. The Circuit Court Relied On An Unsupported Assumption, Adopted Only For Purposes Of Argument And In A Non-adversary Context In Deciding The "Project Works" Claim; The Indian Petitioners Are Entitled To Their Day In Court On This Question.

The Court of Appeals admitted the "undeniable appeal" of the Indian petitioners' argument that steam electric power plants withdrawing cooling water from navigable streams constitute "project works" and are therefore jurisdictional. That argument was not accepted, however, because of the Court's natural reluctance to reject explicit language of the Supreme Court —language which, albeit *obiter dictum,* commanded unanimous agreement of the justices . . ." (Circuit Court opinion, p. 51). The Circuit Court did muster other arguments to reinforce this conclusion, but it is obvious that it was this Court's dictum that was the decisive factor in the decision below.

The dictum in question appears in the *Taum Sauk* case, *Federal Power Comm'n* v. *Union Electric Co.,* 381 U.S. 90 (1965). In *Taum Sauk,* the question was whether the Commission had jurisdiction over pumped storage hydroelectric power plants, in which pumps

(usually powered by fossil fuel sources) are used to draw water out of a river to a reservoir located at the top of a hill during hours when the demands on an electric generating system are low. At hours of peak demand, the water from the hilltop reservoir is released and its energy is converted to electricity. This Court held that such a facility was jurisdictional, even though it was located on a non-navigable stream, and its operation would have no effect on navigability, because the electricity it generated would be transmitted in interstate commerce. This Court ruled that under the Federal Power Act, Congress "drew on its full authority under the Commerce Clause" (381 U.S. at 96), and not merely its authority over navigable waters in granting the FPC licensing authority.

The power company in *Taum Sauk* tried to argue that this Court's reliance on the Interstate Commerce Clause as the sole basis for jurisdiction would produce an "anomalous consequence," because it would then appear that steam plants would also be jurisdictional if they produced power that was transmitted in interstate commerce. And, the utility declared, there is clearly no FPC jurisdiction over steam plants. The Commission, then as now, agreed that it had no jurisdiction over steam plants. Therefore, it was argued, FPC jurisdiction may not be based on the Commerce Clause alone.

This Court found an answer to this "conundrum" by observing that it does not necessarily follow that steam plants must be jurisdictional if pumped storage hydro plants are. The Court noted that the original Federal Power Act "is concerned with the utilization of water resources and particularly the power poten-

tial in water. In relation to this central concern of the Act, the distinction between a hydroelectric project and a steam plant is obvious, and meaningful, although both produce energy for interstate transmission" (381 U.S. at 110).

The cross-petitioners respectfully submit that, based on the factual allegations contained in their pleadings in this case (which have not been denied by the government or the power companies), a distinction between steam and hydro plants based on water usage is *not* "obvious and meaningful." In *Taum Sauk,* the parties and the court below, as well as this Court, all assumed that a steam plant's operations simply could have no substantial effect on the power potential in water. This assumption may well have been reasonable in 1965, when the largest existing power plant was under 1,000 megawatts (Circuit Court opinion, p. 49, n. 109) and returned virtually all cooling water used to the rivers and streams from which it was withdrawn.

The *Taum Sauk* case did not present this Court with facts such as exist in the present case. As the Circuit Court declared, the six plant energy complex "will withdraw (often permanently) such large amounts of water that the 'power potential' of majority [sic] waterways will be affected adversely to an extent greater than that of hydroelectric facilities" (Circuit Court opinion, p. 50). Under these circumstances, it is imperative for this Court to take a new look at this subject. The Court of Appeals acknowledged (Circuit Court opinion, p. 46), this Court agrees,[1] and elemen-

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[1] See, *e.g.*, Fishgold v. Sullivan Dry Dock & Repair Corp., 328 U.S. 275, 290 (1946).

tary considerations of fairness dictate that the Indian petitioners be given their day in court; this issue should not be decided on the basis of an unsupported assumption, premised on a far different set of facts, in a proceeding where none of the parties espoused the position set forth in this cross-petition.

II. The Decision Below, If Left Standing, Would Create A Regulatory Gap In The Regulation Of Steam Electric Power Plants.

The Court of Appeals found it "difficult to comprehend that there should be no federal agency or policy governing the siting and operation of fossil-fueled steam plants" (Circuit Court opinion, p. 56). The Federal Power Commission estimates that 193 steam electric plants are situated on or downstream from government dams, and would thus be subject to its jurisdiction under the surplus water clause.[2] However, this is only a small fraction of the approximately 970[3] fossil fuel power plants in the United States today. Thus, the vast majority of American power plants would continue to go unregulated, despite the generally-acknowledged pressing need for such controls. This Court should not sanction such a result. Instead, it should be clearly stated that all steam electric plants whose operations substantially affect the power potential of navigable waters should be regulated by the Federal Power Commission under the "project works" clause.

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[2] See the Respondent's Petition for Rehearing and Suggestion for Rehearing En Banc below, p. 1.

[3] United States Environmental Protection Agency, Report of the Hearing Panel: National Public Hearings on Power Plant Compliance with Sulfur Oxide Air Pollution Regulations, p. 1 (January 1974).

CONCLUSION

For the reasons stated, if this Court issues a writ of certiorari in this case, it should agree to consider the correctness of the District of Columbia Circuit's determination of the "project works" claim, as well as the "surplus water" argument.

Respectfully submitted,

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Of Counsel:

NATIVE AMERICAN RIGHTS FUND

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UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

Before Commissioners: John N. Nassikas, Chairman; John A. Carver, Jr., Albert B. Brooke, Jr., and Pinkney Walker.

Docket No. E-7664

THE CHEMEHUEVI TRIBE OF INDIANS, ET AL.

v.

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

ORDER DISMISSING COMPLAINT

(Issued November 4, 1971)

On September 10, 1971, The Chemehuevi Tribe of Indians, the Cocopah Tribe of Indians, the Sierra Club, the Committee to Save Black Mesa, Inc., Emma Yazzie, Jimmy Yazzie, Paul Begay, Chester Hugh Benally, and Bill Begay (complainants) filed a complaint and petition for order to show cause pursuant to 18 C.F.R. § 1.6, requesting the Commission to determine a " . . . single legal issue: does the Federal Power Commission have licensing jurisdiction over steam plants generating and transmitting energy in interstate commerce, which withdraw large quantities of water from navigable streams for cooling and other plant purposes?" (complaint, para. 19). The complaint seeks to invoke licensing jurisdiction of this Commission granted pursuant to Part I of the Federal Power Act, 16 U.S.C. 792-823 (complaint, paras. 7-9).

The Commission may, at any stage of a proceeding, make a determination of its jurisdiction and may do so on its own motion as well as upon request of the parties. All of the parties cited as "complainees" by complainants have not responded to the complaint.[1] The issue of jurisdiction

[1] The Secretary, by notice dated October 19, 1971, extended the time within which to respond to the complaint,, to on or before November 9, 1971. The cited respondents include Arizona Public Service Company, Southern California Edison Company, Public

is clear and warrants disposition of this matter upon the complainants' pleadings without the necessity of further answers or briefing. The complaint must be dismissed.

The authority of this Commission to license facilities under Part I of the Federal Power Act is that of licensing project works. *Lake Ontario Land Development & Beach Protection Ass'n* v. *Federal Power Commission,* 212 F.2d 227, 232 (CADC, 1954), *cert. denied,* 347 U.S. 1015 (1954). They are defined in the Act, 16 U.S.C. § 796(12), as the physical structures of a project. Project is defined as follows, 16 U.S.C. § 796(11):

> "project" means complete unit of improvement or development, consisting of a power house, all water conduits, all dams and appurtenant works and structures (including navigation structures) which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith, the primary line or lines transmitting power therefrom to the point of junction with the distribution system, or with the interconnected primary transmission system, all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and occupancy of which are necessary or appropriate in the maintenance and operation of such unit;

The thermal electric generating stations referred to in the complaint,[2] are not properly classifiable as project works within the meaning of Part I of the Federal Power Act, which was originally enacted as the Federal Water Power Act, approved June 10, 1920 (41 Stat. 1063). By Title II of the Public Utility Act of 1935 (49 Stat. 838), the original Federal Water Power Act, with certain clari-

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Service Company of New Mexico, Salt River Project, Tucson Gas and Electric Company, El Paso Electric Company, Los Angeles Department of Water & Power, Nevada Power Company, Utah Power & Light Company, and San Diego Gas & Electric Company.

[2] Four Corners plant, Mohave plant, Navajo plant, San Juan plant, Huntington Canyon plant, and Kaiparowits plant.

fying amendments, was made Part I of the Federal Power Act. The preamble of the Federal Water Power Act (41 Stat. 1063), specifies that one of the purposes of that legislation was to provide for the development of water power. Steam power is not mentioned. Moreover, the legislative history shows that it was not intended that the licensing of thermal stations be included.

This construction of the Commission's licensing jurisdiction under Part I of the Federal Power Act has been the long-standing interpretation of the Commission. See First Annual Report of the Federal Power Commission, pp. 51-52 (1921); Forty-Fourth Annual Report of the Federal Power Commission, pp. 10-11 (1964); and Forty-Fifth Annual Report of the Federal Power Commission, p. 159 (1965). It has been recognized favorably by the Supreme Court. See *Federal Power Commission* v. *Union Electric Co.*, 381 U.S. 90, 110 (1965).

The Commission further finds:

The Commission is without jurisdiction to grant the substantive licensing relief requested by complainants in their complaint and petition.

The Commission orders:

Complainants' complaint and petition, filed September 10, 1971, is dismissed for lack of Commission jurisdiction.

By the Commission.

(SEAL)

KENNETH F. PLUMB,
Secretary.

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

Before Commissioners: John N. Nassikas, Chairman; John A. Carver, Jr., Albert B. Brooke, Jr., Pinkney Walker, and Rush Moody, Jr.

Docket No. E-7664

THE CHEMEHUEVI TRIBE OF INDIANS, ET AL.

v.

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

ORDER DENYING APPLICATION FOR REHEARING

(Issued December 10, 1971)

On November 12, 1971, application for rehearing of an order dismissing complaint issued November 4, 1971, was filed by the Chemehuevi Tribe of Indians, the Cocopah Tribe of Indians, the Sierra Club, the Committee to Save Black Mesa, Inc., Emma Yazzie, Jimmy Yazzie, Paul Begay, Chester Hugh Benally, and Bill Begay (Complainants).

The respondents are Arizona Public Service Company, Southern California Edison Company, Public Service Company of New Mexico, Salt River Project, Tucson Gas and Electric Company, El Paso Electric Company, Los Angeles Department of Water & Power, Nevada Power Company, Utah Power & Light Company, and San Diego Gas and Electric Company.

The Commission finds:

The application for rehearing filed by Complainants presents no new facts or principles of law which were not fully considered by the Commission in its order of November 4, 1971, or which, having now been considered warrant any modification of that order.

The Commission orders:

The application for rehearing filed by Complainants on November 12, 1971, is denied.

By the Commission.

(SEAL)

KENNETH F. PLUMB,
Secretary.

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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 71-2012

THE CHEMEHUEVI TRIBE OF INDIANS *et al.*, PETITIONERS

v.

FEDERAL POWER COMMISSION, RESPONDENT

ARIZONA PUBLIC SERVICE COMPANY, SAN DIEGO GAS & ELECTRIC COMPANY, UTAH POWER & LIGHT COMPANY, DEPARTMENT OF WATER & POWER OF THE CITY OF LOS ANGELES, EL PASO ELECTRIC COMPANY, NEVADA POWER COMPANY, SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT & POWER COMPANY, SOUTHERN CALIFORNIA EDISON COMPANY, and TUCSON GAS & ELECTRIC COMPANY, INTERVENORS

Petition for Review of Orders of the Federal Power Commission

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Decided November 9, 1973

Joseph J. Brecher, of the bar of the Court of Appeals of New York, *pro hac vice*, by special leave of court, for petitioners. *Reid Chambers* and *Edward Berlin* also entered appearances for petitioners.

Daniel Goldstein, Assistant General Counsel, Federal Power Commission, with whom *Gordon Gooch*, General

Counsel, *Leo F. Forquer*, Solicitor, and *George W. McHenry, Jr.*, First Assistant Solicitor, Federal Power Commission, were on the brief, for respondent. *J. Richard Tiano*, Deputy Solicitor, Federal Power Commission, at the time the record was filed, also entered an appearance for respondent.

Harry A. Poth, Jr., with whom *Richard M. Merriman, Peyton G. Bowman, III*, and *Robert T. Hall, III* were on the brief, for intervenor Arizona Public Service Company and certain other intervenors.

Edward P. Nelsen and *Robert W. Tollen* were on the brief for intervenor San Diego Gas & Electric Company.

Sidney G. Baucom and *Robert Gordon* entered appearances for intervenor Utah Power & Light Company.

Edward C. Farrell entered an appearance for intervenor Department of Water & Power of the City of Los Angeles.

William Duncan entered an appearance for intervenor El Paso Electric Company.

Samuel P. Cowley entered an appearance for intervenor Nevada Power Company.

Leroy Michael entered an appearance for intervenor Salt River Project Agricultural Improvement & Power District.

John R. Bury entered an appearance for intervenor Southern California Edison Company.

Before WRIGHT, TAMM and MCCREE,* *Circuit Judges.*

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* Of the Sixth Circuit, sitting by designation pursuant to 28 U.S.C. § 291(a) (1970).

Opinion for the court filed by *Circuit Judge* McCREE.

McCREE, *Circuit Judge:* Thermal electric power plants, or "steam plants," whether fossil-fueled or nuclear-fired, require large amounts of water to cool and thereby condense the steam after it passes through turbine rotors. In this appeal, we must decide whether fossil-fueled steam plants that obtain their cooling waters from a major river system of the United States in a manner affecting its navigability are subject to the licensing jurisdiction of the Federal Power Commission (FPC) under Part I of the Federal Power Act, 16 U.S.C. §§ 791a-823 (1970).

Petitioners contend that the FPC has authority to license these plants; the Commission asserts, as it has since 1921, that it does not.

Petitioners [1] filed with the FPC on September 10, 1971,

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[1] Complainants Chemehuevi Tribe and Cocopah Tribe of Indians live on reservations along the Colorado River and assert an interest in the quality and quantity of the river waters. The Chemehuevi Tribe also claims it is threatened by air pollution from some of the plants in question. Complainant Sierra Club is a national organization interested in the conservation of unspoiled, wild, and scenic areas of the United States, and it claims that its particular interest in protecting the "unparalleled scenic and recreational attractions of the Southwestern United States" would be affected by the activities of the power plants. Complainant Committee to Save Black Mesa, Inc. is a nonprofit organization headquartered on the Navajo Indian reservation in Arizona that disseminates information regarding the consequences of power plants or mining activities near the reservation and is composed of persons residing on the reservation whose health, welfare, and esthetic enjoyment of the area allegedly will be adversely affected by the activities of the power plants in question. Complainants Emma Yazzie, Jimmy Yazzie, Paul Begay, Chester Hugh Benally, and Bill Begay are Navajo Indians residing on a reservation near the Four Corners

a complaint and petition for an order to show cause[2] requesting the Commission to require ten public utilities located in the southwestern United States[3] (in the so-called Four Corners area) to obtain licenses for six fossil-fueled plants being constructed along the Colorado River and its tributaries. The complaint asserted that the plants are part of a vast power pool being created in the southwestern United States by the utilities and that the energy generated within the pool will be transmitted in interstate commerce to load centers as far as 600 miles away. The six plants described in the complaint are: 1) the Four Corners Plant, located on the Navajo Indian Reservation near Farmington, New Mexico, which has five coal-fired generating units in commercial operation, a current installed capacity of 2,087 megawatts, and a proposed total capacity of about 6,000 megawatts,[4] and, according to the complaint, withdraws about 34,000 acre feet of water per year from the San Juan River;[5] 2) the Mohave Plant, on the Colorado River three miles downstream from the Davis Dam in the southeast corner

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power plant, who claim that their health and welfare is severely threatened by the activities of that plant and the other plants.

[2] See 18 C.F.R. §§ 1.6(a), (d) (1972).

[3] The utilities are the Arizona Public Service Company, Southern California Edison Company, Public Service Company of New Mexico, Salt River Project, Tucson Gas & Electric Company, El Paso Electric Company, Los Angeles Department of Water & Power, Nevada Power Company, Utah Power & Light Company, and San Diego Gas & Electric Company.

[4] The sources of these figures are the complaint and the intervenor brief, in this court, of eight of the named utilities.

[5] An acre foot of water is the amount required to cover one acre of land with one foot of water.

of Nevada, with two 750,000-kilowatt coal-fired units in commercial operation, which withdraws 30,000 acre feet of water per year from the Colorado River; 3) the Navajo Plant, under construction on the Navajo Indian Reservation four miles east of Page, Arizona, in the extreme north of Arizona, which will have three 770,000-kilowatt coal-fired units in commercial operation by the spring of 1976, and will withdraw 34,100 acre feet of water per year from Lake Powell, the reservoir created by the Glen Canyon Dam on the Colorado River in northern Arizona and southern Utah; 4) the Kaiparowits Plant, to be constructed on federally owned land in southern Utah about 20 miles north of Page, Arizona, with initial planned installed capacity of 2,000 megawatts and possible ultimate capacity of 6,000 megawatts, which will withdraw 102,000 acre feet of water per year from Lake Powell; 5) the San Juan Plant, under construction on federal land near Farmington, New Mexico, with planned initial capacity of 330,000 kilowatts and possible ultimate capacity of 990,000 kilowatts, which is scheduled to begin operation in the summer of this year and will withdraw 20,200 acre feet of water per year from the San Juan River; 6) the Huntington Canyon Plant, being constructed in part on federal land about 29 miles from Price, Utah, which will consist initially of one coal-fired unit of 430,000 kilowatts and will begin operation in 1974, with a second unit planned for 1977 and possibly two additional units thereafter, for a total possible capacity of 2,000 megawatts, and will withdraw 30,000 acre feet of water per year from Huntington Creek for use with the initial generating unit.

The complaint asserted that the Commission has licensing authority over the Four Corners plants under § 4(e) of the Federal Power Act, 16 U.S.C. § 797(e) (1970),*

* 16 U.S.C. § 797(e) (1970) provides, in pertinent part:

[Footnote continued on page 6]

because the utilities are constructing and operating "project works," *see* 16 U.S.C. §§ 796(11), (12) (1970),

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[Continued]

The Commission is authorized and empowered—

. . .

(e) To issue licenses to citizens of the United States, or to any association of such citizens, or to any corporation organized under the laws of the United States or any State thereof, or to any State or municipality for the purpose of constructing, operating, and, maintaining dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from, or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States (including the Territories), or for the purpose of utilizing the surplus water or water power from any Government dam, except as herein provided:

16 U.S.C. §§ 796(11), 796(12) (1970) provide:

(11) "project" means complete unit of improvement or development, consisting of a power house, all water conduits, all dam and appurtenant works and structures (including navigation structures) which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith, the primary line or lines transmitting power therefrom to the point of junction with the distribution system or with the interconnected primary transmission system, all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and

for the development, transmission, and utilization of electric power across and along "navigable waters," *see* 16 U.S.C. § 796(8) (1970);[8] that the above-described withdrawals of water from the Colorado River system by the six power plants will affect the navigability of these navigable waters; that the Navajo and Kaiparowitz plants will use "surplus water," *see* 16 U.S.C. § 797(e) (1970),[9] impounded by a "government dam," *see* 16 U.S.C. § 796(10) (1970);[10] and that some of the six plants are or will be located on public lands or reserva-

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occupancy of which are necessary or appropriate in the maintenance and operation of such unit;

(12) "project works" means the physical structures of a project. . . .

[8] 16 U.S.C. § 796(8) (1970) provides:

(8) "navigable waters" means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, and which either in their natural or improved condition notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows, or rapids, together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority; . . .

[9] *See* note 6 *supra*.

[10] 16 U.S.C. § 796(10) (1970) provides:

(10) "Government dam" means a dam or other work constructed or owned by the United States for Government purposes with or without contribution from others. . . .

tions of the United States, *see* 16 U.S.C. §§ 796(1), 796(2).[11] After alleging that the six plants are likely to create severe air and water pollution, threaten the integrity of many natural, historical, and recreational resources, and disrupt the ecology and despoil the environment of the Four Corners region, the complaint stated that only a "single legal issue" was presented: "does the Federal Power Commission have licensing jurisdiction over steam plants generating and transmitting energy in interstate commerce, which withdraw large quantities of water from navigable streams for cooling and other plant purposes?" Because the plants were under construction and because only a question of law was involved, petitioners requested an expedited procedure and requested the FPC to order the utilities to show cause why they should not be required to suspend all development and construction of the plants pending the conclusion of this proceeding.

On their request, the utilities were given until November 9, 1971, to file answers to the complaint. On October 18, 1971, the Utah Power & Light Company filed an answer denying most of the allegations of the complaint and moved to dismiss the complaint for failure to state a claim upon which relief could be granted, for

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[11] 16 U.S.C. §§ 796(1), 796(2) (1970) provide:

(1) "public lands" means such lands and interest in lands owned by the United States as are subject to private appropriation and disposal under public land laws. It shall include "reservations", as hereinafter defined;

(2) "reservations" means national forests, tribal lands embraced within Indian reservations, military reservations, and other lands and interests in lands owned by the United States, and withdrawn, reserved, or withheld from private appropriation and disposal under the public land laws; also lands and interests in lands acquired and held for any public purposes; but shall not include national monuments or national parks; . . .

lack of subject matter jurisdiction, and for laches with respect to the Huntington Canyon Plant. Before any other answers were filed, however, the Commission on November 4, 1971, *sua sponte* issued an order dismissing the complaint for lack of jurisdiction.

In its order, the Commission stated that its licensing authority under Part I of the Federal Power Act extended to the licensing of "project works" and that thermal electric generating plants are not "properly classifiable" as project works within the meaning of 16 U.S.C. §§ 796(11), (12) (1970). This conclusion was based on brief references to the preamble of the Act as originally enacted in 1920, to the legislative history of the Act, to the long-standing FPC interpretation of its powers under the Act, and to the decision of the Supreme Court in *Federal Power Commission v. Union Electric Company*, 381 U.S. 90, 110 (1965) (the *Taum Sauk* case), all of which support the determination that the Commission has licensing authority over hydroelectric plants only, *i.e.*, plants generating electricity by water power.

On November 10, 1971, complainants filed an application for rehearing, pursuant to 16 U.S.C. § 825*l*(a) (1970). The application asserted that the structures and operations of the six plants came within the literal language of 16 U.S.C. § 797(e) (1970), because

> [t]he facts in this case demonstrate clearly that water conduits, power houses and transmission lines have been and are being constructed for the purpose of generating and transmitting electricity in interstate commerce; that surplus water from behind the Bureau of Reclamation's Glen Canyon Dam will be utilized for this purpose; and that much of the facilities in question will be and are located on public lands and reservations of the United States.

In addition, the application contended that consistent administrative failure to regulate was not conclusive of the jurisdictional issue because "consistent error is still error," *Phillips Petroleum Company v. Wisconsin*, 347 U.S. 672, 678 n.5 (1954), and that the lack of explicit jurisdictional authority in an agency's enabling statute does not preclude the agency from exercising jurisdiction when appropriate to the performance of the agency's function, *United States v. Southwestern Cable Company*, 392 U.S. 157 (1968). Finally, the application suggested that the statements in the *Taum Sauk* case about the lack of FPC jurisdiction to regulate steam plants were obiter dictum and thus not determinative of a subsequent proceeding squarely presenting the issue.

On December 10, 1971, the FPC issued an order denying the application for rehearing. Complainants then filed a petition in this court on December 14, 1971, to review the Commission's orders. *See* 16 U.S.C. § 825*l* (b) (1970).[12] By order dated February 4, 1972, the

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[12] Under 16 U.S.C. § 825*l* (b) (1970), "[a]ny party to a proceeding under this chapter aggrieved by an order issued by the Commission in such proceeding may obtain a review of such order in the . . . United States Court of Appeals for the District of Columbia . . . ." Although it makes no practical difference in the result in this case, we observe that complainant Sierra Club does not have standing to seek review of the Commission's orders in this court because it has not satisfied the "injury in fact" test enunciated in *Sierra Club v. Morton*, 405 U.S. 727 (1972). Here, as in *Sierra Club*, the club

> failed to allege that it or its members would be affected in any of their activities or pastimes by the [Four Corners] development. Nowhere in the pleadings . . . did the Club state that its members use [the Colorado River system and the surrounding area] for any purpose, much less that they use it in any way that would be

utilities named in the complaint were allowed to intervene in these proceedings.

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significantly affected by the proposed actions of the respondents.

405 U.S. at 735. It is true that the decision in *Sierra Club* construed § 10 of the Administrative Procedure Act, 5 U.S.C. § 702 (1970), which is not involved in this case. However, the language of § 313(b) of the Federal Power Act is identical to that of § 10 of the Administrative Procedure Act—both refer to a "party" who is "aggrieved" by agency action, *see Citizens Comm. for Hudson Valley v. Volpe*, 425 F.2d 97, 101 (2d Cir.), *cert. denied*, 400 U.S. 949 (1970)—and the opinion in *Sierra Club* discussed cases arising under other judicial review statutes interchangeably with those involving only the Administrative Procedure Act. *See* 405 U.S. at 736-40 & n.14.

It is interesting to observe that 18 C.F.R. § 1.6(a) (1972) allows the filing of a complaint with the FPC by "[a]ny person . . . complaining of anything done or omitted to be done by any . . . public utility . . . in contravention of an act . . . administered" by the Commission. Thus, the Sierra Club had standing to initiate the licensing proceeding before the Commission, and it can be argued that this made it a "party" that was aggrieved when the FPC dismissed the complaint. However, the fact that a person is a party in agency proceedings does not require that he be allowed to seek judicial review of the agency's action; he must still satisfy judicial standing requirements. *See Pittsburgh & West Virginia Ry. Co. v. United States*, 281 U.S. 479, 486 (1930); 3 K. Davis, *Administrative Law Treatise* 241 (1958); Shapiro, *Some Thoughts on Intervention Before Courts, Agencies, and Arbitrators*, 81 Harv. L. Rev. 721, 728, 767 (1968). *But cf. Office of Communication of United Church of Christ v. FCC*, 123 U.S. App. D.C. 328, 359 F.2d 994, 1000 n.8 (1965).

I

At the outset, it is important to consider briefly the factual background of the problems presented by the issues in this case.

Although estimates of the precise rate of growth vary, it is undisputed that the demand for electric power—as well, of course, as that for other kinds of energy—is increasing at a staggering rate. According to one source,[1] consumption of electric power is growing by 9% per year, and demand for it is expected to double during each of the next two or three decades. The expected 250% increase in the demand for electric energy between 1970 and 1990 will require at least 255 new thermal-electric plants of 500,000 kilowatts to 2,000 megawatts capacity.[2] Ninety-one of these plants will be fossil-fuled; 164 will be nuclear-fired.[3] Hydroelectric plants are not expected to play more than a very minor role in satisfying this burgeoning demand for electric power both because most of the good hydroelectric sites are being fully utilized and because thermal-electric plants

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[1] N. Fabricant & R. Hallman, *Toward a Rational Power Policy: Energy, Politics, and Pollution* 5 (1971). *See also* Ramey & Murray, *Delays and Bottlenecks in the Licensing Process Affecting Utilities: The Role of Improved Procedures and Advance Planning*, 1970 Duke L.J. 25, 31-32; Tarlock, Tippy & Francis, *Environmental Regulation of Power Plant Siting: Existing and Proposed Institutions*, 45 S. Cal. L. Rev. 502 (1972); Comment, *Thermal Electric Power and Water Pollution: A Siting Approach*, 46 Ind. L.J. 61, 63 (1970).

[2] *See* Ramey & Murray, *supra* note 13, at 32 n.31, citing Energy Policy Staff, Office of Science and Technology, *Considerations Affecting Steam Power Plant Site Selection* 4 (1968); Smith, *Electricity and the Environment—The Generating Plant Siting Problem*, 26 Bus. Law. 169 (1970).

[3] *See* Ramey & Murray, *supra* note 13, at 34.

are more effective in producing the great quantities of electricity required.[11]

The manner in which thermal-electric plants generate electricity has been simply described as follows:

> Steam electric plants generate electricity by the thermo-dynamic process known as the Rankine Cycle. Heat produced by burning fossil fuel or nuclear materials turns water into steam. The steam passes through a turbine at high pressure and temperature, turning the turbine which in turn drives a generator to produce electricity. After leaving the turbine, the steam goes into a condenser, where the steam gives off its excess heat to the cooling water circulating in the condenser, is condensed to water and returned to the boiler or reactor to repeat the cycle.[12]

About two-thirds of the heat generated by burning the fuel source becomes waste heat that is absorbed by the cooling waters in the condenser,[13] and this results in a considerable elevation of the temperature of these waters. The heated water is then ordinarily returned directly to the water body from where it had been pumped into the condenser. This "once-through" cooling process for thermal-electric plants accounts for over 80% of the total cooling-water used nationally and almost one-third of the total water used for all purposes.[14] The tremendous projected growth in the production of thermal-electric power is expected to increase cooling requirements from 120 billion gallons a day in 1971, about 10% of the average daily runoff in the continental United States, to 200

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[11] *Id.* at 32; *see* FPC, *National Power Survey* 93 (1964).

[12] N. Fabricant & R. Hallman, *supra* note 13, at 73; *see* Comment, *supra* note 13, at 65.

[13] N. Fabricant & R. Hallman, *supra* note 13, at 52.

[14] *Id.*

billion gallons a day by 1980 and to 600 billion gallons a day by 2000, an amount equivalent to 50% of the average daily runoff in the United States.[20]

When the cooling waters are discharged directly into receiving water without having passed through cooling towers,[21] they may be 10 to 20 degrees (Fahrenheit) warmer than the receiving water.[22] Thermal discharges can cause severe damage to the aquatic ecosystems of the receiving waters.[23] If evaporative cooling towers are used to cool the waters leaving the condensers, the immediate environment may be adversely affected and large quantities of water may be permanently lost to the water source from which the cooling waters were obtained.[24]

In addition, fossil-fueled steam plants are notorious sources of air pollution. Nationally, they contribute about 50% of all sulfur oxides, 25% of all nitrogen oxides, and 25% of all particulate matter discharged into the at-

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[20] *Id.* at 52-53. Apart from the increase in the number of plants, much of this dramatic rise in cooling water requirements can be explained by the anticipated proliferation of nuclear-fired plants, which under present technology produce about 50% more heat than do fossil-fueled plants. *See id.* at 6, 53; Tarlock, Tippy & Francis, *supra* note 13, at 508; Comment, *supra* note 13, at 63-64.

[21] For a description of the operations of cooling towers, see Comment, *supra* note 13, at 71 n.25. Alternatives to direct heat discharge are discussed in *id.* at 71-72 n.25, and Tarlock, Tippy & Francis, *supra* note 13, at 509-10.

[22] N. Fabricant & R. Hallman, *supra* note 13, at 52.

[23] *See id.* at 53-55; Tarlock, Tippy & Francis, *supra* note 13, at 508-09; Comment, *supra* note 13, at 65-70.

[24] *See* Comment, *supra* note 13, at 71.n.25.

mosphere.[25] Moreover, the construction and operation of these huge complexes, the erection of hundreds of miles of overhead transmission lines, and the utilization of dams, pumps, and pipes in and along adjacent waterbodies disrupt the areas surrounding power plants.

We are told by petitioners that the six plants involved in this appeal have already had a significant detrimental impact in the Four Corners region and that this impact can be expected to become much more pervasive as all six plants become operational and plant capacity is increased. The environmental impact statement prepared by the Federal Bureau of Reclamation for the Navajo Project, petitioners say, indicates that the six plants will evaporate most of the water they withdraw for cooling purposes. Thus, up to a quarter million acre feet of water would annually be withdrawn permanently from the Colorado River system, or over 2% of the 10-year average flow of the Colorado River at Lee Ferry, Arizona, of 12.1 million acre feet of water per year for the period 1958-67.[26] Petitioners claim that the projected increase in electric-power generation in the Colorado River basin will increase the permanent withdrawal to 5% by 1990. Petitioners also contend that studies and hearings by various state and federal officials have confirmed the

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[25] *See* N. Fabricant & R. Hallman, *supra* note 13, at 15; Tarlock, Tippy & Francis, *supra* note 13, at 510-12.

[26] *See* 42 U.S.C. § 4332(2)(C) (1970).

[27] *See* H.R. Rep. No. 1312, 90th Cong., 2d Sess. (1968), in 3 U.S. Code Cong. & Ad. News 3666, 3683-84 (1968). The average flow from 1891 to 1967 was 11 million acre feet, with a high of 24 million acre feet in 1917 and a low of 5.6 million acre feet in 1934. *Id.* By 1967 the Colorado River was already "over-committed" by contract, compact, and judicial decree, according to the House Committee on Interior and Insular Affairs. *Id.* at 3669-70.

assertions of area residents that the Four Corners plants are heavily polluting the air of the region in violation of state and federal standards and that other activities harmful to the environment including strip mining are being undertaken in conjunction with operating the plants.[*]

It is thus in the context of an increasing competition between the need for power and the importance of preserving public resources, between virtually unregulated growth and constraints required by concern for present-day and long-term environmental consequences, that we construe a statute that was enacted in an age in which the magnitude of these conflicts could not have been foreseen.

II

Petitioners contend that FPC jurisdiction is properly invoked under § 4(e) of the Federal Power Act for two reasons: either because the six plants identified in the complaint are "project works" necessary for the development of power along navigable waters or because the plants will utilize "surplus water" from Government dams. We will consider these contentions in turn.

A

It is true, as petitioners point out, that the literal language of § 4(e) appears to include steam plants. "Project," as defined in 16 U.S.C. § 796(11), means the complete unit of development of a power plant, including reservoirs and dams, and is not by its terms limited to hydroelectric plants. Under § 4(e), the Commission is empowered to license "project works"—the physical structures of a project—necessary or convenient for the "de-

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[*] *See, e.g.*, Sen. Comm. on Interior & Insular Affairs, 92d Cong., 1st Sess., *Problems of Electrical Power Production in the Southwest* (Comm. Print 1971); Comment, *The Four Corners Power Complex: Pollution on the Reservation*, 47 Ind. L.J. 701, 705-08 (1972).

velopment, transmission, and utilization of power across, along, from or in" waterways over which Congress has jurisdiction. Again, there is no mention of "hydroelectric power" as such. Under the "ordinary man" or "plain meaning" cannon of statutory construction, petitioners argue, the utilities here are constructing facilities described by the Act, and there is, accordingly, no need to resort to legislative history or other extrinsic aids.[30]

In answering a similar argument, the Second Circuit has said:

> We reject this line of maxims of statutory construction in favor of Judge Learned Hand's more practical instruction that "[w]ords are not pebbles in alien juxtaposition," [*NLRB v. Federbush Co., Inc.*, 121 F.2d 954, 957 (2d Cir. 1941)] and therefore turn first to [the Act's] legislative history.[31]

Our role is to give effect to the intention of Congress as it may be discerned by reference to the historical background of the legislation as well as to the particular words chosen by the Congress to express its purpose.[32] The use of extrinsic aids such as legislative history to determine congressional purpose is appropriate not only when the words of the statute are ambiguous but also "when the literal words would bring about an end com-

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[30] *See, e.g., Malat* v. *Riddell*, 383 U.S. 569, 571 (1966); *Addison* v. *Holly Hill Fruit Products, Inc.*, 322 U.S. 607, 618 (1943).

[31] *See, e.g., United States v. Oregon*, 366 U.S. 643, 648 (1961); *Packard Motor Car Co. v. NLRB*, 330 U.S. 485, 492 (1947); *Calvert Cliffs' Coordinating Comm. v. United States AEC*, 449 F.2d 1109, 1126 (D.C. Cir. 1971).

[32] *Colligan v. Activities Club of New York, Ltd.*, 442 F.2d 686, 689 (2d Cir.), *cert. denied*, 404 U.S. 1004 (1971).

[33] *See, e.g., FPC v. Tuscarora Indian Nation*, 362 U.S. 99, 126 (1960) (Black, J., dissenting).

pletely at variance with the purpose of the statute."[33] In our case, the history of the Federal Power Act, other provisions of the Act, developments occurring after its enactment, and the uniform (with one notable exception) expression of judicial and scholarly commentators compel the conclusion that the structures comprising thermal-electric plants are not "project works" required to be licensed by the FPC under § 4(e).

Part I of the Federal Power Act was enacted originally as the Federal Water Power Act in 1920.[34] It was the first federal legislation to provide for comprehensive management of the nation's waterways, and it was also the first federal attempt to regulate significantly the production of power.

The earliest federal efforts, which culminated in the Rivers and Harbors Act of 1899, 33 U.S.C. §§ 401, 403 (1970),[35] were aimed at preventing obstruction of nav-

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[33] *United States v. Public Utilities Comm'n of Calif.*, 345 U.S. 295, 315 (1953); *cf. Preiser v. Rodriguez*, 11 U.S.L.W. 4555, 4559 (U.S. May 7, 1973).

[34] A colorful and detailed account of the events preceding its passage is contained in J. Kerwin, *Federal Water-Power Legislation* (1926). *See also* Fly, *The Role of the Federal Government in the Conservation and Utilization of Water Resources*, 86 U. Pa. L. Rev. 274 (1938); Pinchot, *The Long Struggle for Effective Federal Water Power Legislation*, 14 Geo. Wash. L. Rev. 9 (1945); Comment, 39 Mich. L. Rev. 976 (1941).

[35] 33 U.S.C. §§ 401, 403 (1970) provide:

§ 401. Construction of bridges, causeways, dams or dikes generally

It shall not be lawful to construct or commence the construction of any bridge, dam, dike, or causeway over or in any port, roadstead, haven, harbor, canal, navigable river, or other navigable water of the United States until the consent of Congress to the building of such structures shall have been obtained and until the plans for the same

igable waterways. To achieve this end, the Act of 1899 requires the approval of Congress, the Secretary of the Army, and the Chief of Engineers before any dam, bridge or similar facility can be constructed in navigable waters of the United States, and prohibits the obstruc-

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shall have been submitted to and approved by the Chief of Engineers and by the Secretary of the Army: *Provided*, That such structures may be built under authority of the legislature of a State across rivers and other waterways the navigable portions of which lie wholly within the limits of a single State, provided the location and plans thereof are submitted to and approved by the Chief of Engineers and by the Secretary of the Army before construction is commenced: *And provided further*, That when plans for any bridge or other structure have been approved by the Chief of Engineers and by the Secretary of the Army, it shall not be lawful to deviate from such plans either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Chief of Engineers and of the Secretary of the Army.

§ 403. Obstruction of navigable waters generally; wharves; piers, etc.; excavations and filling in

The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to beginning the same.

tion of these waters even by activities undertaken only on nonnavigable tributaries.[38] A parallel course of legislation granted rights of way over public lands for purposes of irrigation and the generation of electric power,[39] and in 1901 authorized the Secretary of Interior to grant revocable permits for "electrical plants, poles and lines for the generation and distribution of electrical power" on rights of way through the public lands and forests of the United States.[40] In practice, however, the Secretary did not bother to issue formal permits, and hydroelectric generating structures were routinely erected on public lands or along navigable waters. Bills awarding power sites were routinely introduced in Congress and routinely approved.[41] The notable exception was President Roosevelt's veto[42] of a bill that would have awarded Muscle Shoals, Alabama—which later became the nucleus of the Tennessee Valley Authority system—to private interests.[43]

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[38] Earlier legislation included the Rivers and Harbors Acts of 1880 (21 Stat. 197), 1881 (23 Stat. 133), 1888 (25 Stat. 121-25), 1890, (26 Stat. 426, 454), and 1892 (27 Stat. 110). *See* Starr, *Navigable Waters of the United States—State and National Control*, 35 Harv. L. Rev. 154, 171 (1921); Kerwin, *supra* note 31, at 105-08; *See FPC v. Union Electric Co.*, 381 U.S. 90, 99 (1965); *Union Bridge Co. v. United States*, 204 U.S. 364 (1907); *United States v. Rio Grande Dam & Irrigation Co.*, 174 U.S. 690 (1899).

[39] Act of March 3, 1891, ch. 561, § 18, 26 Stat. 1101, *as amended*, 43 U.S.C. § 946 (1970); Act of May 11, 1896, ch. 179, 29 Stat. 120, *as amended*, 43 U.S.C. § 957 (1970). *See generally* Kerwin, *supra* note 31, at 105-08.

[40] Act of Feb. 15, 1901, ch. 372, 31 Stat. 790, *as amended*, 43 U.S.C. § 959 (1970). This legislation superseded the legislation of 1890 (*see* note 37 and accompanying text). *Utah Power & Light Co. v. United States*, 243 U.S. 389, 407 (1917).

[41] Pinchot, *supra* note 34, at 11.

[42] *See* 36 Cong. Rec. 3071 (1903).

[43] *See* Pinchot, *supra* note 34, at 11; *see generally* Kerwin, *supra* note 34, at 58-110.

It should be observed at this point that hydroelectric power became a major power source in the United States about the turn of the 20th century because of the development of technology for the long-distance transmission of electricity. Before that time, steam power had become the chief source of power in the United States,[42] and has remained so to the present day.[43] The development of commercially feasible techniques for the production of electricity in the 1870's, and the establishment of the first large-scale electric generating plants in the 1880's, did not inaugurate a rapid expansion of the electric power industry because the transmission of power by direct current was too inefficient over long distances. However, with the development of alternating current in the late 19th century, the problem of power loss over long distances was solved, and hydroelectric power sites on major rivers or public lands distant from large cities became common.[44] It was the escalating private appropriation of these sites that evoked the early federal regulatory initiatives.

Following the transfer of responsibility for the national forests to the Forest Service of the Department of Agriculture in 1905,[45] the Secretary of Agriculture began to

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[42] *See* Kerwin, *supra* note 34 at 13-57; Pinchot, *supra* note 34, at 9; *see also* note 121 *infra*.

[43] In *Udall v. FPC*, 387 U.S. 428, 445-47 n.11 (1967), the Court indicated that in 1960, hydroelectric power accounted for 3.9% of the energy requirements of the United States, nuclear power, 0.1%, and fossil fuels, 96%. By the year 2000, hydroelectric power is expected to provide only about 2% of our energy, nuclear power from 14% to 23%, and fossil fuels from 75% to 84%. *Id.* By 1990, nuclear plants will provide about one-fourth of our electric power. Comment, *supra* note 13, at 64 n.6. *See* note 130 *infra*.

[44] *See* Kerwin, *supra* note 34, ch. 1; 1 FPC, *National Power Survey* chs. 1, 2, 4, & 6 (1964).

[45] Act of Feb. 1, 1905, ch. 288, 33 Stat. 628, codified in 16 U.S.C. § 472 (1970).

issue permits for 50-year periods for rights of way in the forests for the generation and transmission of water power. A fee system was also established,[46] although the charges at first were hardly more than nominal. Nevertheless, permits were still granted as a matter of course, and power sites were still routinely awarded by Congress to private power interests. And no efforts were made to coordinate the many different uses of public lands and navigable waters for the purpose of promoting the comprehensive development of the major river systems in the public interest.

Beginning in 1906, the first halting steps in that direction were taken. The General Dam Act[47] of that year provided that, when Government permission was granted to construct a dam for water power or any other purpose in any navigable waters, the plans and specifications for the dam and "all accessory works" had to be submitted to the Secretary of War and the Chief of Engineers for approval. These two officials were expressly authorized to impose conditions on construction that were deemed necessary to protect the present and future interests of the United States, including the condition that the permittees construct structures "necessary in the interests of navigation." The Act was intended by its framers to permit the development of water power while facilitating the improvement of stream navigability by the Government through the utilization of private capital.[48]

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[46] *See United States v. Colorado Power Co.*, 240 F. 217 (D. Colo. 1916); Kerwin, *supra* note 34, at 77-78, 143-53; Pinchot, *supra* note 34, at 11-15.

[47] Act of June 21, 1906, ch. 3508, 34 Stat. 386.

[48] *See* Kerwin, *supra* note 34, at 113.

In 1910, the Act was amended [39] to provide that in acting on the plans submitted, the two above-named federal officials "shall consider the bearing of said struc-

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[39] Act of June 23, 1910, ch. 360, 36 Stat. 593. The Act in its amended form can be found in 33 U.S.C.A. at pp. 25-27. The amendment was inspired by President Roosevelt's vetoes of the Rainy River bill in 1908 (42 Cong. Rec. 1698 (1909) and the James River bill in 1909 (43 Cong. Rec. 978 (1909)) for the stated reasons, *inter alia*, that no charges or time limits had been set for these awards of permits for water power development in the named rivers. *See* Kerwin, *supra* note 34, at 115-30; Pinchot, *supra* note 34, at 16-17. In *FPC v. Union Electric Co.*, 381 U.S. 90, 98-99 n.11 (1965), the Court referred to the Rainy River veto as the "keynote" of "movement toward the enactment of" the federal Water Power Act of 1920, and it quoted the following passage from the President's veto message:

> "We are now at the beginning of great development in water power. Its use through electrical transmission is entering more and more largely into every element of the daily life of the people. Already the evils of monopoly are becoming manifest; already the experience of the past shows the necessity of caution in making unrestricted grants of this great power.
>
> "It should also be the duty of some designated official to see to it that in approving the plans the maximum development of the navigation and power is assured, or at least that in making the plans these may not be so developed as ultimately to interfere with the better utilization of the water or complete development of the power."

Besides the 1910 amendment to the General Dam Act, the vetoes may have also inspired passage of the Act of 1911, 36 Stat. 1253, that authorized the Secretary of Agriculture to grant 50-year easements over public lands, forests, and reservations for electrical poles and lines. *See* Kerwin, *supra* note 34, at 109. *Cf. United States v. Oklahoma Gas & Electric Co.*, 318 U.S. 206, 213 (1943). The presidential vetoes were themselves anticipated by the President's appointment of the Inland Waterways Commission in 1908 (S. Doc. No. 325, 60th Cong., 1st Sess. (1908)) to generate a comprehensive plan "designed for the benefit of the entire country. Such a plan

ture upon a comprehensive plan for the improvement of the waterway over which it is to be constructed with a view to the promotion of its navigable quality and for the full development of water power . . . ." The 1910 amendment also provided that the assessment of charges by the United States reflect the cost of maintaining the navigability of the affected river systems. Moreover, permits granted under the Act were made revocable and could not be granted for a period exceeding 50 years. At the expiration of the permit, the Government would pay the permittees the reasonable value of the dams and appurtenant works.

Despite these initiatives, however, the focus of federal efforts over the next few years remained on improving and maintaining the navigability of the major rivers. Thus, for example, the Weeks Act of 1911 [50] authorized the Secretary of Agriculture to acquire, upon recommendation of the National Forest Reservation Commission, denuded lands in the watersheds of headwaters of navigable waters to protect the navigability of those waters by making the lands available for reforestation.[51] The Government also engaged in sporadic efforts to impose the permit requirements of the 1901 legislation on power companies that had appropriated public lands for the building of hydroelectric facilities without seeking a fed-

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should consider and include all the uses to which streams should be put, and should bring together and coördinate the points of view of all users of waters." 42 Cong. Rec. 6968 (1908).

[50] 36 Stat. 961, codified in 16 U.S.C. §§ 480, 500, 513-19, 521, 552, 563 (1970).

[51] *See Young v. Anderson*, 160 F.2d 225 (D.C. Cir.), *cert. denied*, 331 U.S. 824 (1947); *United States v. Griffin*, 58 F.2d 674 (W.D. Va. 1932).

eral license,[57] and to require the payment of fees as a condition to retaining licenses previously issued.[58]

A congressional battle between private power interests and conservationists was touched off by the attempt of the former in July, 1912, to secure House of Representatives' approval of an Omnibus Water Bill that would have authorized the construction of seventeen major dam projects with no provision for a charge or other regulation by the Government.[59] The bill was eventually de-

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[57] *See Utah Power & Light Co.* v. *United States*, 243 U.S. 389 (1917).

[58] *See United States* v. *Colorado Power Co.*, 240 F. 217 (D. Colo. 1916). By 1915, the Government was collecting about $89,000 in administrative charges assessed for development of water power on the national forests. *See* Kerwin, *supra* note 34, at 202.

[59] *See* H.R. Rep. 1050, 62d Cong., 2d Sess. (1912). The conservationists, led by men such as Gifford Pinchott, head of the Forest Service under President Roosevelt and later Governor of Pennsylvania, decried what they saw as a great giveaway of the Nation's water resources to private interests and a callous disregard of the interest of the public in a comprehensive system of water management that would benefit the public at large. *See* Pinchot, *supra* note 34, at 11-20. Pinchot referred to private interests as "water power grabbers" (*id.* at 16) who were "eager for plunder," (*id.* at 18) and he characterized the battle as one "between private greed and the public good" (*id.*). *See generally* Kerwin, *supra* note 34, *passim;* Fly, *supra* note 34, at 291-92. These conservationists were concerned about the growing use of fossil fuels in the generation of other types of power, and they desired to encourage the growth of water power, under federal auspices, because of their perception of hydroelectricity as a virtually limitless—and cheap—source of power. Caught up as well in the rising public tide against private monopolization of the means of production, they sought to protect the right of the public to the power potential of water. As the House Report accompanying the Adamson Bill (*see* note 61 *infra*) put it:

[Footnote continued on page 26]

railed by President Taft's veto of the Coosa River bill on August 24, 1912, because the latter contained no provision for charging the permittee for the privilege of

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[54] [Continued]

> Experience has taught us that in the past the private monopolization of natural opportunities has not only deprived the general public of their natural right to a proper share of the benefit which should accrue from them, but such monopolization has given to those possessing it a proponderance [*sic*] of influence and of power in our industrial and civic life which is little short of a menace to our institutions.
>
> We have awakened none too soon to the necessity of preserving under public control these great natural opportunities for the creation of wealth, which belong to the public and which could constitute a serious source of danger to equal liberty and fair opportunity if transferred in perpetuity to private ownership.

H.R. Rep. No. 842, 63d Cong., 2d Sess. 11 (1911).

The opponents of the conservationists were those who believed that only the private development of the nation's water power resources could exploit those resources to a degree that would benefit the public, those who were against increasing centralization of government or increasing federal intervention in what they perceived to be essentially local or private affairs, and, of course, those who saw the private, unregulated generation of hydroelectric power as a profitable enterprise. *See* Kerwin, *supra* note 34, at 153-57 *passim*; Fly, *supra* note 43, at 289-90. Both groups agreed, however, that the existing system of federal regulation was undesirable because of its piecemeal approach and its generally restrictive effect on the large-scale development of water power.

The Dam Acts of 1906 and 1910 were considered inadequate by many because, although they did provide for charges, no fees were exacted for the privilege of obstructing navigable waters; permittees were merely required to compensate the Government for the costs of restoring prior conditions of navigability and for benefits provided by Government improvements. And, investment under the Acts was seen to be a risky proposition because of uncertainty about the disposition of the properties after 50 years had expired and because Con-

building the dam.[54] However, the battle lines had been drawn.[55] In all the legislative debates that followed, the primary line of demarcation between the opposing forces was this question of imposing charges on private developers of water power for being allowed to undertake such development.[56] The power interests, whose main influence lay in the Senate, argued that the federal government could not constitutionally charge a private developer for the privilege of generating water power on a navigable waterway if the United States had no interest in the surrounding lands and had made no expenditure itself for improvements at the development site. The conservationists, represented primarily in the House, countered with the argument that Congress could impose conditions on any grant of authority by it to obstruct navigable waters, and, since the Government could itself generate and sell water power at works it

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gress reserved the right to repeal or modify the Act without liability. *See* Kerwin, *supra* note 34, at 130. Although water power development on navigable streams had come to a standstill by 1912, development on the public lands, especially in the West, actually exceeded demand during this period. *See id.* at 39-42, 155-56.

An interesting expression of the point of view of the power interests can be found in Brown, *The Conservation of Water-Powers*, 26 Harv. L. Rev. 601 (1913), in which the author takes the position that the best way to "conserve" the nation's water power resources is to encourage private water power development. *See id.* at 601. *See also* Shields, *The Federal Power Act*, 73 U. Pa. L. Rev. 142 (1924).

[54] 48 Cong. Rec. 11796 (1912); *see* S. Doc. No. 949, 62d Cong., 2d Sess. (1912).

[55] *See* Kerwin, *supra* note 34, at 130-42; Pinchot, *supra* note 34, at 17-18.

[56] *See* Kerwin, *supra* note 34, at 79-98, 171-260.

constructed to facilitate navigation,[58] it could license a private company to develop the power in its stead, and could exact a reasonable fee as compensation for the license.[59] For our purposes, it is interesting to observe that the proponents of charges pointed out that steam plants were more expensive to operate than water power plants, and that therefore if a state public service commission fixed a flat rate to be charged by electric utilities, the water power plants would make excess profits. They argued that a federal charge on hydroelectric plants could result in those excess profits being used for the development of navigation. Thus, the contemplated charge for the privilege of developing hydroelectric power was seen as a way of equalizing the costs of hydroelectric and steam power, and thereby insuring that the rates paid by consumers would be equal.[60] It was this view, of course, that eventually prevailed.

Over the next few years, several bills were introduced in Congress by the respective factions, but none was able to pass both houses.[61] However, in 1920, a Wilson

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[58] *See United States v. Chandler-Dunbar Water Power Co.*, 229 U.S. 53 (1908); notes 167-70 *infra* and accompanying text.

[59] *See* Kerwin, *supra* note 34, at 95-98.

[60] *See* 52 Cong. Rec. 10450 (1916); Kerwin, *supra* note 34, at 199-200.

[61] A number of bills reflected the key philosophical differences between the power interests and the conservationists, as they differed substantially on the questions of charges, Government recapture, and the extent of Government regulation of plant operations: The Adamson Bill, which related to water power development on navigable waters, H.R. 16053, 63d Cong. 2d Sess. (1914); the Ferris Bill, which was concerned with the question of water power development on the public lands, H.R. 16673, 63d Cong., 2d Sess. (1914); H.R.

administration bill regulating the construciton of water power projects on navigable waters, public lands, and forest reserves was introduced.[92] The recent war, and

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408, 64th Cong., 1st Sess. (1916); the Myers Bill, which was the response of the power interests to the original wording of the Ferris Bill, H.R. 16673, 63d Cong., 3d Sess. (1914); S. 2399, 65th Cong., 1st Sess. (1917); *see* Hearings before the Sen. Comm. on Public Lands on H.R. 16673, 63d Cong., 3d Sess. (1914); and the Shields bill, S. 3331, 64th Cong., 1st Sess. (1915); S. 1419, 65th Cong., 1st Sess. (1917). For a discussion of the bills and the legislative debates, *see* Kerwin, *supra* note 34, at 172-216. The water power interests lobbied very heavily for the Shields Bill, and much of their considerable influence during this period was a consequence of their press campaign for the need of immediate development of water power for the manufacture of nitrates necessary for ammunition for the impending war. But the Shields Bill, like the others, was never passed by more than one house. *See id.* at 207-10.

[92] In 1917, President Wilson had directed his Secretaries of War, Interior, and Agriculture to prepare a similar bill. The Bill, H.R. 8716, 65th Cong., 2d Sess. (1918), that was ultimately prepared and referred to a special House committee on water power contained most of the provisions of the bill that was finally enacted in 1920. The letter of transmittal accompanying certain amendments to the bill offered by the Secretaries reiterates many of the arguments that had been raised in favor of extensive federal water power regulation:

WASHINGTON, FEBRUARY 27, 1918.

Hon. T. W. Sims,
House of Representatives.

Dear Mr. Sims:

It is understood your committee will take action at an early date upon various proposals which have been made concerning water-power legislation. On account of

the conditions now affecting the power industry and the need of maintaining our entire industrial machinery at its highest efficiency, a satisfactory solution of the water-power problem is, in our judgment, one of the most important steps for the consideration of this Congress and one which should receive attention at the earliest possible date.

The industrial expansion which has been necessary in order to produce the materials and equipment needed in the prosecution of the war has placed unprecedented demands upon the electric power industry, to such an extent in fact that the output of commercial central stations has increased more than 60 per cent since 1914. This increase has been greatest in the manufacturing sections of the East where water-power development is comparatively limited, and has been chiefly in the form of steam-generated power, because steam power can be developed more quickly and at less capital cost than water power. This increase in power output has taken place notwithstanding advances in costs of construction and of operation.

While the form of bill which has been presented for your consideration is directly concerned with water-power development only, an adequate solution of this problem will have a favorable and stabilizing effect upon the whole power industry. Probably no considerable increase in new water-power development can be expected immediately, but legislation is urgently needed in order to put existing water-power developments, which have been made under inadequate law, into a position of security which will enable them to make extensions and to meet maturing obligations upon favorable terms.

There is also need of legislation in order that time may be given to prepare for the developments that must take place after the close of the war, if the United States is to maintain its proper place in world trade, or even to supply its domestic needs. A survey of water-power resources is needed, particularly with relation to

specific districts and specific industries. The various establishments of the Federal Government which have had to do with the administration of water power should be coordinated through a single agency, and as far as practicable all agencies, federal, state, and private, should be brought into cooperation. It is urgently recommended that a federal power commission be established as provided in the proposed bill and be given ample authority to undertake this work of preliminary investigations.

Beyond the need of power development as such is the need of increasing the proportion of water power in order to reduce the drain on our coal and petroleum supplies, particularly the latter. Even if the coal supply were unlimited, the reduction in the demands upon labor and transportation equipment would be sufficient reason for substituting water power for steam power whenever possible. The petroleum supply particularly in the West where the greatest proportion is used for fuel, is being rapidly depleted, consumption has exceeded production and stocks in storage are fast disappearing. With the substitution of water power for steam power in central stations and with the electrification of railroads, a large part of the use of petroleum for fuel could be eliminated.

Water-power legislation should have in view not only the maintenance of the rights of the public in the national resources, but also the adequate protection of private capital by which such resources are developed. The bill before you aims to do both.

. . .

Very truly yours,

NEWTON D. BAKER,
Secretary of War.

FRANKLIN K. LANE,
Secretary of the Interior.

D. F. HOUSTON,
Secretary of Agriculture.

[Footnote continued on page 32]

what was seen as the inadequacy of the nation's exploitation of its resources in preparation for the war, gave additional impetus to the drive for effective water power regulation,[63] and, after compromise between the houses

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[62] [Continued]

Quoted in Kerwin, *supra* note 34, at 225-28 (emphasis added). However, after a vigorous debate over its recapture provisions and a House-oriented reconciliation of the bill with the Shields Bill in a conference committee, H.R. Rep. 1147, 65th Cong., 3d Sess. (1919), it fell victim to a Senate filibuster as the 65th Congress closed on March 5, 1919. *See* Kerwin, *supra* note 34, at 217-55; *see also FPC v. Union Electric Co.*, 381 U.S. 90, 102 n.18 (1965).

The bill was reintroduced in the House at the start of the next session, and it passed the House with minor changes in July 1919.

[63] Secretary Houston, in his report to the House, stated:

> The exigencies of war brought to light defects in our national utilization of power which had not been fully realized. Operating under statutes enacted when the electrical industry was in its infancy, we had permitted our vast water-power resources to remain almost untouched, turning to coal and oil as the main source of power; for steam power could be developed more quickly and easily with fewer legal restrictions and with greater security to the investment. Probably not less than 85 percent of the power used in this country for domestic, public, and industrial purposes and for the operation of railroads is produced from coal and fuel oil. Not only are water powers relatively unused, but we are yet far from accomplishing the economics which are practicable in the development of steam power. While individual steam stations have reached a high degree of mechanical efficiency, we have failed to realize the group efficiency of many stations operating in a system and we still pursue the crude method of transporting steam power by rail in its raw state as fuel instead of transmitting it over wires in its developed state as electrical energy.

> The power requirements of this country will not be met until we develop our water powers, tie them in with steam plants located at the mine itself and operate all in great interstate systems. These considerations were presented before the special committee of the House of Representatives in the hearings held on the water-power bill during the last Congress. The need of adequate legislation is no less urgent now.
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> H. R. Rep. No. 61, 66th Cong., 1st Sess. 5 (1919).

See also the remarks of Senator Jones introducing the bill:

> If 10 years ago, instead of enacting restrictive laws which have prohibited development of our water powers, Congress had invited their development through fair and reasonable terms, the beginning of the World War would have found the United States with 20,000,000 developed hydroelectric power instead of 5,000,000. Indeed, it is not too much to say that Germany would have hesitated before entering the conflict with probability of having to face a Nation possessing such an enormous amount of harnessed physical force wherewith to back up its armies. As it was, the beginning of the Great War found us short of coal, short of oil, short of power, and half a billion dollars was expended inside of two years in the erection of steam-power plants, many of which, built haphazard under war-time stress, are now useless owing to unfavorable location. Through failure of Congress to pass water-power laws under which money could be safely invested with prospect of a full return, water powers now wasting have been held back from development in at least 22 States of the Union.
>
> 59 Cong. Rec. 241 (1919)

There was also concern that the nation's river systems had proved inadequate to maintain wartime transportation burdens. *See* Fly, *supra* note 34, at 279. And, the old arguments about the efficiency and inexhaustibility of water power were also trotted out. *See* report of Secretary Houston, *supra*, and remarks of Senator Jones:

[Footnote continued on page 34]

on questions relating to the amount of Government charges and the wording of the recapture provision,[64]

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[63] [Continued]

The report of the Geological Survey shows that our consumption of coal for all purposes during the year 1913 was about 100,000,000 short tons, of which the railroads alone used about 30 percent. This tremendous tonnage requires for mining and transportation the labor of 1,500,000 men and the use of over 1,000,000 freight cars and 40,000 locomotives. In addition to this the petroleum used in 1913 was equivalent to 24,000,000 tons of coal. Every water horsepower now going to waste which could be economically substituted for fuel power would represent approximately 5½ tons of coal per year, based on an average of 12 hours per day. The labor of one man is released for other uses every time 50 hydroelectric horsepower is developed, and every 150 water horsepower developed releases one freight car for other duty.

* * * *

The utilization of even one-third of the enormous amount of energy latent but now wasting in our falling waters would make the United States the greatest manufacturing country of the world. The development of our water powers is intimately connected with the solution of such great national problems as the national defense; extension of inland waterways; shortage of food; conservation of coal, oil, and labor; irrigation of arid lands; and railroad car shortage. In addition to conserving vast quantities of coal and labor to mine and handle it, the hydroelectric energy existing in our running waters will, when developed, be utilized in the manufacture of explosives, fertilizers, wood pulp and paper, electrochemicals, copper and aluminum, and in other industrial applications.

59 Cong. Rec. 241-242 (1919)

[64] *See* H.R. Rep. 910, 66th Cong., 2d Sess. (1920); Kerwin, *supra* note 34, at 255-63.

the bill was passed by both houses and signed by President Wilson on June 11, 1920.

Thus was born the Federal Water Power Act of 1920, which "established firmly the principle of federal regulation of water power projects [and] . . . established a national policy in the use and development of water power on public lands and navigable streams." [65] The history of the Act shows beyond any doubt that the only segment of the power industry that was intended to be regulated by the Act was the construction and operation of facilities for the generation of hydroelectric power. Accordingly, as the Supreme Court has recognized, "the central purpose of the Federal Water Power Act was to provide for the comprehensive control over those uses of the Nation's water resources in which the Federal Government had a legitimate interest: these uses included navigation, irrigation, flood control, and, very prominently, hydroelectric power—uses which, while unregulated, might well be contradictory rather than harmonious. . . . The principal use to be developed and regulated in the Act, as its title indicates, was that of hydroelectric power to meet the needs of an expanding economy." [66]

The Act itself, of course, was entitled the Federal Water Power Act; it could just as easily have been called the Federal Power Act (as it subsequently became),[67] or the Federal Water Resources Act, or some other name not indicating so specifically that the major use to be developed and regulated was the generation of hydroelectric power. The preface to the Act states:

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[65] Pinchot, *supra* note 34, at 19.

[66] *FPC v. Union Electric Co.*, 381 U.S. 90, 98-99 (1965); *see First Iowa Hydro-Electric Cooperative v. FPC*, 328 U.S. 152, 180-81 (1946).

[67] *See* notes 83-86 *infra* and accompanying text.

> An Act to create a Federal Power Commission; to provide for the improvement of navigation; *the development of water power*; the use of the public lands in relation thereto, and to repeal section 18 of the River and Harbor Appropriation Act, approved August 8, 1917, and for other purposes.[39]

It is true, as petitioners point out, that statutory headings of complicated acts can provide no more than a very general guide and cannot limit the plain meaning of the statutory text.[40] But it does not follow that the regulation of steam plants can be subsumed under the words "and for other purposes" in the preface, which explicitly recites the broad, fundamental purposes of the Act.[41] We agree with intervenors that it is unlikely that, if Congress had intended to include the regulation of thermal-electric generation as a basic purpose of the Act, it would have limited reference in the preface to hydroelectric power—the lesser utilized of the two sources of electric power generation. The explicit reference to only hydroelectric power is consistent with the legislative history of concern with promoting the "comprehensive development of water power."[42]

Other provisions of the Act bear this out. For example, § 4(a), 16 U.S.C. § 797(a), authorizes the Commission to make investigations concerning the utilization of water resources of regions to be developed, concerning "the water-power industry and its relation to other industries and to interstate and foreign commerce," and concerning the location, capacity, development costs, and relation to markets of power sites—again, only water

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[39] 41 Stat. 1063 (emphasis added).

[40] *See Bhd. of R. Trainmen v. B. & O. Ry.*, 331 U.S. 519, 528-29 (1947).

[41] *See FPC v. Union Electric Co.*, 381 U.S. 90, 100-01 (1965).

[42] *FPC v. Union Electric Co.*, 381 U.S. 90, 101 (1965).

power is singled out for study. Section 10(a), *as amended*, 16 U.S.C. § 803(a), provided that licenses issued under the Act be issued on the condition that the projects adopted "shall be such as in the judgment of the commission will be best adapted to a comprehensive scheme of improvement and utilization for the purposes of navigation, *of water-power development*, and of other beneficial public uses . . . ." (Emphasis added.) The proviso to § 24, *as amended*, 16 U.S.C. § 818, accorded retroactive application to that section's provision for the protection of licensees in their utilization of public lands for which application had been made for use in constructing "water power" facilities.

In recognition of the intent of Congress as expressed in the Act, the newly created Commission in its first annual report determined that its licensing jurisdiction extended only to construction of water power projects. In two opinions contained in that report, the Commission determined that it did not have licensing jurisdiction over either the construction of a dam in tidal waters for the purpose of allowing bathing and boating "and to cover unsightly flats" or the stringing of transmission lines because neither project was connected with the development of water power.[12] Elsewhere in that report, the Commission described its licensing jurisdiction as follows:

> "On neither the public lands and reservations nor on the waters of the United States is the jurisdiction of the Federal Power Commission as broad as the jurisdiction of Congress. The latter has authority over all forms of use; *the Commission is limited to the consideration of projects designed to produce water power.* Structures or diversions having any other purpose, unless incidental to works constructed for power purposes or a necessary part of a com-

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[12] *See* FPC, *First Annual Report* 138, 155 (1921).

> prehensive scheme of development, are not within the jurisdiction of the Commission." [73]

The Commission has adhered to this position consistently since 1921.[74]

We are told by petitioners, however, that this administrative interpretation of the Commission's jurisdiction is entitled to no weight because "consistent error is still error." [75] We are told that "the unadorned language of the Act" [76] is more significant than Commission interpretation; that administrative construction must yield to the "plain language and overall scheme" of the Act; [77] and that the jurisdictional judgment in this case does not require the kind of analysis of technical facts that would require us to defer to administrative expertise.

We have already indicated our disagreement with petitioners' argument that we need look no further than the language of §§ 3 and 4 of the Act to hold that the FPC has licensing jurisdiction over steam plants, and we discuss *infra* their contention that the purpose of the Act requires that we so hold even if the language does not.[78] Because the "unadorned language" of the Act, moreover,

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[73] *Id.* at 51-52 (emphasis added).

[74] *See, e.g.*, 1962 Annual Report of the FPC 12-13; 1966 *id.* at 8-9; 1 FPC, *National Power Survey* 100-01 (1964).

[75] *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672, 678 n.5 (1954); *Nantahala Power & Light Co. v. FPC*, 384 F.2d 200, 206 n.12 (4th Cir. 1967), *cert. denied*, 390 U.S. 945 (1968).

[76] *Nantahala Power & Light Co. v. FPC*, 384 F.2d 200, 206 (4th Cir. 1967), *cert. denied*, 390 U.S. 945 (1968).

[77] *See, e.g., County of Marin v. United States*, 356 U.S. 412, 420 (1958); *United States v. New England Coal & Coke Co.*, 318 F.2d 138, 143 (1st Cir. 1963).

[78] *See* part II. B. *infra*.

does not compel the interpretation for which petitioners contend, consistent administrative construction to the contrary commands our respect; indeed, it is entitled to "great weight." [79] "Particularly is this respect due when the administrative practice at stake 'involves a contemporaneous construction of a statute by the men charged with the responsibility of setting its machinery in motion, of making the parts work efficiently and smoothly while they are yet untried and new.'" [80]

It is not without significance, moreover, that this administrative interpretation was transmitted directly to Congress the year after passage of the Act, and that the only two significant amendments to the Act over the following fourteen years, including a reenactment of the Act in 1935, gave no hint of congressional desire to override the Commission's construction of the scope of its jurisdiction.[81] In 1930, a Reorganization Act was enacted [82] to improve the functioning of the Commission by making it independent and able to employ its own full-time staff. In 1935 the Water Power Act was amended by Title II of the Public Utility Act of 1935 [83] and was made part I of the Federal Power Act. The 1935 Act

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[79] *Trafficante v. Metropolitan Life Ins. Co.*, 409 U.S. 205, 210 (1972).

[80] *Power Reactor Dev. Co. v. Electrical Workers*, 367 U.S. 396, 408 (1961); *see Udall v. Tallman*, 380 U.S. 1, 16 (1965); *FHA v. The Darlington, Inc.*, 358 U.S. 84, 90 (1958).

[81] *Cf. Pacific Power & Light Co. v. FPC*, 184 F.2d 272, 275 (D.C. Cir. 1950).

[82] 46 Stat. 797, codified in 16 U.S.C. §§ 792, 793, 797(d) (1970).

[83] 49 Stat. 838, *as amended*, 16 U.S.C. §§ 792-823 (1970). *See* DeVane, *Highlights of Legislative History of the Federal Power Act of 1935 and the Natural Gas Act of 1938*, 14 Geo. Wash. L. Rev. 30, 30-38 (1945).

added parts II[*] and III[**] to the Act to regulate the interstate transmission and sale of electricity. The deletion of the word "Water" from the title reflected the expanded duties of the Commission under parts II and III; the original Federal Water Power Act was virtually unchanged.[***] It would have been a simple matter for Congress to have rejected the Commission's construction of its licensing powers by adding clarifying amendments to § 4(e) or to § 3. By reenacting unchanged the material provisions of the Act with knowledge of the contemporaneous construction placed upon the Act by those charged with its administration, Congress can be said to have indicated its satisfaction with that construction.[****]

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[*] 49 Stat. 847, *as amended*, 16 U.S.C. §§ 824-824h (1970).

[**] 49 Stat. 851, *as amended*, 16 U.S.C. §§ 825-825u (1970).

[***] As the House report explained:

> The amendments to the present Federal Water Power Act are all minor. They have been requested by the Federal Power Commission, largely for the purpose of clarifying the act in its application to situations that have arisen in its administration, and also to strengthen it in certain particulars . . . .

H.R. Rep. No. 1318, 74th Cong., 1st Sess. 7 (1935). The major changes were made in §§ 4 and 23 of the Act, relating to Commission licensing authority over hydroelectric projects on nonnavigable waters but affecting interstate commerce. *See FPC v. Union Electric Co.*, 381 U.S. 90 (1965); *First Iowa Hydro-Electric Cooperative v. FPC*, 328 U.S. 152, 172 n.17 (1946); Sen. Rep. No. 621, 74th Cong., 1st Sess. 43 (1935).

[****] *Cammarano v. United States*, 358 U.S. 498, 510-11 (1959); *FHA v. The Darlington, Inc.*, 358 U.S. 84, 90 (1958); *United States v. Wyoming*, 331 U.S. 440, 452-53 (1947); *cf. FPC v. Union Electric Co.*, 381 U.S. 90, 110-12 n.30 (1965); *id.* at 112 n.1 (Goldberg, J., dissenting). *But see Safe Harbor Water Power Co. v. FPC*, 124 F.2d 800, 808 (3d Cir.), *appeal dismissed*, 313 U.S. 546 (1941).

Consistent judicial interpretation also requires us to reject petitioners' argument that the Act extends the Commission's licensing jurisdiction to steam plants.

The Supreme Court's first significant discussion [90] of the history and purpose of the Federal Water Power Act occurred in 1946 in *First Iowa Hydro-Electric Cooperative v. Federal Power Commission*, 328 U.S. 152, in which the Court held that an applicant for a license under the Act did not have to obtain first a state permit and satisfy state requirements relating to the diversion of water from waterways determined to affect the commerce interests of the United States.[91] The Court observed that the Act, when read in the light of its legislative history, disclosed "a vigorous determination of Congress to make progress with the development of the long idle water power resources of the Nation" by exercising its power over commerce and the public lands to foster the "development of the navigable waters of the United States." [92] The "greatest step" taken by the Government in pursuit of this goal was the provision in the Federal Water Power Act for 50-year licenses "for the development of water power in the navigable waters of the United States." [93] Citing approvingly an article by Gifford Pinchot,[94] one of the major figures in the conservationist movement,

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[90] The Court did consider several earlier cases involving various aspects of the Act. *See United States v. Appalachian Power Co.*, 311 U.S. 377 (1940); *Broad River Power Co. v. Query*, 288 U.S. 178 (1933); *Henry Ford & Son, Inc. v. Little Falls Fibre Co.*, 280 U.S. 369 (1930); *New Jersey v. Sargent*, 269 U.S. 328 (1926).

[91] For application of this principle to water power projects on public lands, *see FPC v. Oregon*, 349 U.S. 435 (1955).

[92] 328 U.S. at 171-72.

[93] 328 U.S. at 172 n.17.

[94] Pinchot, *supra* note 34, at 19.

the Court briefly reviewed the history of the Act and characterized it as "distinctly an effort to provide federal control over and give federal encouragement to water power development."[93] The Court described the general purposes of the Act as follows:

> It was the outgrowth of a widely supported effort of the conservationists to secure enactment of a complete scheme of national regulation which would promote the comprehensive development of the water resources of the Nation, in so far as it was within the reach of the federal power to do so, instead of the piecemeal, restrictive, negative approach of the River and Harbor Acts and other federal laws previously enacted.
>
> It was a major undertaking involving a major change of national policy. That it was the intention of Congress to secure a comprehensive development of national resources and not merely to prevent obstructions to navigation is apparent from the provisions of the Act . . . .[94]

Six years later, the Court held that the Commission's duty of conserving water power resources and of developing comprehensive plans for waterways justified the Commission's imposition of the condition that a licensee permit the United States to interconnect its transmission lines with those of the licensee for the transfer of power generated in plants owned by the Government.[95] That same Term the Court held that congressional approval of a general plan for development of a river system did not deprive the Commission of jurisdiction under the Federal Power Act to decide whether private construction might be preferable to public development of water power

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[93] 328 U.S. at 180 n.23.

[94] 328 U.S. at 180-81.

[95] *FPC v. Idaho Power Co.*, 344 U.S. 17, 22-24 (1952).

sites within the system.[96] In describing the scope of the Commission's authority, the Court said:

> Extensive review of the need for integration of federal activities affecting waterways . . . and of the breadth of authority granted to the Commission by Congress in response to the need is hardly necessary to establish the role of the Commission in hydroelectric power development. *See, e.g., First Iowa Coop. v. Power Comm'n*, 328 U.S. 152, 180, 181, and cases cited. From the time that the importance of power sites were brought to public and congressional consciousness during the administration of President Theodore Roosevelt, the significant development has been the devising of a general power policy instead of *ad hoc* action by Congress, with all the difficulties and dangers of local pressures and logrolling to which such action gave rise.[97]

In 1965, the most important, for our purposes, Supreme Court discussion of the language, history, and purpose of the Federal Water Power Act occurred in *FPC v. Union Electric Company*, 381 U.S. 90. In that case, the Court held that a license was required under the Act for the construction of a pumped-storage hydroelectric plant[98] that was to be located along a nonnavigable tributary of a navigable stream, would have no effect on the navigability of the main stream, but would generate electricity for interstate transmission. Congress,

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[96] *United States ex rel. Chapman v. FPC*, 345 U.S. 153 (1953).

[97] 345 U.S. at 167-68.

[98] A pumped-storage plant uses energy from other sources, usually steam plants, to pump water from a low pool or other water source to a higher pool during periods of low electricity demand. During peak periods, the water from the higher pool is released down into the lower pool, and the falling water generates electricity just as in conventional hydroelectric establishments. *See FPC v. Union Electric Co.*, 381 U.S. 90, 92 & n.3 (1965).

the Court stated, had intended to draw on its full power under the Commerce Clause and not merely its authority over navigable waters in making it unlawful in § 23(b), 16 U.S.C. § 817, to construct unlicensed project works that would affect "the interests of interstate or foreign commerce." After briefly reviewing the history of the Act, citing the *First Iowa* case, *supra*, and stating that the principal use to be regulated in the Act "was that of hydroelectric power to meet the needs of an expanding economy,"[99] the Court explained why hydroelectric plants situated on nonnavigable waters and generating electricity in interstate commerce were subject to the Act but steam plants located on navigable waters were not:

> The respondent asserts that an anomalous consequence flows from the Commission's construction of the Act and its view that steam plants generating large amounts of energy for interstate transmission are not within the scope of § 23(b), although located along a stream over which Congress has jurisdiction. Since the Commission's jurisdiction here rests solely on the interstate transmission of energy, there can be no basis for distinguishing between a steam plant and a hydroelectric facility both generating energy for interstate use. The Court of Appeals, after noting that the generation of electric energy is a local or intrastate activity, concluded from this argument that "[t]he Commission's jurisdiction . . . must logically rest upon its delegated congressional jurisdiction over the interests of commerce on navigable waters." 326 F. 2d, at 551. On this reasoning either the Act should, but does not, require a license for a steam plant when situated on the navigable mainstream itself, or should not, but does, require a license for a hydroelectric plant, pumped storage or otherwise, situated on the mainstream but which has no demonstrable effect, or a beneficial effect, on navigability. The answer to this conundrum is that unlike Part II of Title II of the Public Utility Act of 1935, under which the Commission regulates var-

[99] 381 U.S. at 99.

> ious aspects of the sale and transmission of energy in interstate commerce, Part I, the original Federal Water Power Act, is concerned with the utilization of water resources and particularly the power potential in water. In relation to this central concern of the Act, the distinction between a hydroelectric project and a steam plant is obvious, and meaningful, although both produce energy for interstate transmission.[100]

The three dissenting Justices, disagreeing with the Court's broad reading of the commerce interests intended to be protected by the licensing provisions of the Act, did not believe that the "anomaly" created by exemption of steam plants on navigable waters could be so easily explained away:

> However, even in terms of the "power potential in water," I fail to find a relevant distinction between a plant which artificially pumps water to an elevated reservoir in off-peak periods allowing it to fall and generate electricity at peak periods and a plant which heats water to create steam which generates electricity. I see no purpose of the Act that justifies producing this anomaly in the regulatory scheme. Under my view, of course, when interstate or foreign commerce is affected, Congress can constitutionally require licenses of both steam and hydroelectric projects, of either steam or hydroelectric projects, or of neither. *The legislative history here, however, establishes to my satisfaction that it has required licenses of neither steam plants nor the type of hydroelectric plant here involved*, and in light of this legislative history I agree with the Court of Appeals that Congress intended that a license be required only where the interests of commerce on navigable waters are affected.[101]

Thus, all nine Justices agreed that the FPC had no licensing jurisdiction over steam plants; they disagreed

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[100] 381 U.S. at 109-10 (footnotes omitted).

[101] 381 U.S. at 114-15 (Goldberg, J., dissenting) (footnote omitted) (emphasis added).

about the inference to be drawn from this for purposes of determining Commission jurisdiction over water power plants on nonnavigable waters.[102] It may well be, as petitioners contend, that this obiter dictum in the *Taum Sauk* case constituted an unsupported assumption for purposes of argument, that nonadversary determinations do not have the force of law,[103] and that the Court did not have before it the figures cited *supra*[104] indicating the tremendous impact modern steam plants have on the flow and thereby the power potential in the waterways on which they are located. It is significant, however, that the entire Court was in agreement that neither the language nor the history of the Act required the conclusion that the Act was intended to afford the FPC jurisdiction over steam plants. At the least, the dictum in the majority opinion and the statement in the dissent emphasize the weakness of petitioners' argument that the "unadorned language" of § 4(e) is alone sufficient to preclude resort to extrinsic aids and to require reversal of the dismissal order of the FPC.

The lower federal courts, with the exception of the Eighth Circuit in the *Taum Sauk* case[105] have not squarely faced the question presented by this case. Moreover, we have found no case in which a court, by dictum or otherwise, has suggested that the Federal Water Act

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[102] The Eighth Circuit agreed with the dissenting Justices in the *Union Electric* case that the Act was not intended to cover steam plants and therefore should not be read to include hydroelectric plants on nonnavigable waters. *Union Electric Co. v. FPC*, 326 F.2d 535, 550-51 (8th Cir. 1964).

[103] *See, e.g., Fishgold v. Sullivan Dry Dock & Repair Corp.*, 328 U.S. 275, 290 (1946); *SEC v. Sterling Precision Corp.*, 393 F.2d 214, 220 (2d Cir. 1968).

[104] *See* notes 19-20 & 27 *supra* and accompanying text.

[105] *See* note 102 *supra*.

contemplated the licensing of steam plants. Those courts (including this court) that have touched on the question at all appear to have assumed that the Act applied to only hydroelectric facilities.[106] The same can be said with respect to commentators,[107] although Willard Gatchell, the former general counsel to the FPC, was of the opinion that § 4(e) could have been read by the Commission to authorize the licensing of steam plants.[108]

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[106] *See, e.g., Montana Power Co. v. FPC*, 298 F.2d 335, 339 (D.C. Cir. 1962); *Pacific Power & Light Co. v. FPC*, 184 F.2d 272, 274 (D.C. Cir. 1950); *Safe Harbor Water Power Corp. v. FPC*, 124 F.2d 800, 806 (3d Cir.), *appeal dismissed*, 313 U.S. 546 (1941); *Clarion River Power Co. v. Smith*, 59 F.2d 861 (D.C. Cir.), *cert. denied*, 287 U.S. 639 (1932); *Appalachian Electric Power Co. v. Smith*, 4 F. Supp. 6, 24 (W.D. Va.), *rev'd on other grounds*, 67 F.2d 451 (4th Cir.), *cert. denied*, 291 U.S. 674 (1933); *Alabama Power Co. v. Gulf Power Co.*, 283 F. 606 (M.D. Ala. 1922).

[107] *See* Kerwin, *supra* note 34, *passim*; LeBoeuf, *An Industry Appraisal of Federal Regulation of Electric Utilities under the Federal Power Act*, 14 Geo. Wash. L. Rev. 174, 190-93 (1945); Pinchot, *supra* note 34, *passim*; Ramey & Murray, *supra* note 13, at 35 & n.47; Schwartz, *Niagara Mohawk v. FPC: Have Private Water Rights Been Destroyed by the Federal Power Act?*, 102 U. Pa. L. Rev. 31, 36 (1953); Shields, *supra* note 54, at 143, 149; Smith, *supra* note 14, at 173; Starr, *supra* note 35, at 180; Tarlock, Tippy & Francis, *supra* note 13, at 514; Comment, *supra* note 13, at 99-100.

[108] Gatchell, *Jurisdictional Problems Under the Federal Water Power Act of 1920*, 14 Geo. Wash. L. Rev. 42, 44 (1945):

> Under this grant of authority, the Commission could issue a license for a steam-electric power plant located on a navigable stream, which utilized the water of such stream for condensing purposes and transmitted the power so generated across, along, or from such stream. Also, a power development utilizing steam rather than

With all respect to Mr. Gatchell, we believe, as shown above, that this overly literal reading of § 4(e) ignores the history and other language of the Act, and it is, of course, at odds with the overwhelming weight of authority.

B.

Similarly, we reject petitioners' contention that technological advances in the 53 years since the Act was passed have wrought such dramatic changes in the operation of steam plants that we should hold that the licensing of such plants by the FPC is consistent with, and indeed essential to, the purpose of the Act.

It is true, as petitioners point out, that recent developments in the technology of thermal-electric power generation have made possible the construction of generating units that dwarf the plants in use as recently as thirteen years ago.[109] An example is the Four Corners plants

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water power as the generating force could well have most of the physical structures listed in Section 3(11) of the statute in the definition of "project." Thus, there is no express limitation of the licensing authority to hydroelectric power plants as distinguished from steam-electric plants. Apparently the legislators considered the title to the Act (". . . to provide . . . for the development of water power . . .") as sufficient to exclude steam-electric plants. The Commission has justified such confidence by never claiming authority to license steam plants, stating in its First Annual Report that it was limited to consideration of projects designed to produce water power.[10]

[109] In 1 FPC, *National Power Survey* 14 (1964), the following table appears.

[Footnote continued on page 49]

involved in this litigation. The tremendous growth in the demand for electricity has resulted in an enormous expansion of the installed thermal-electric capacity [110] and a corresponding increase in the amount of water need for cooling.[111] Giant complexes such as the Four

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[109] [Continued]

Maximum Sizes of Generating Units in the United States

(In megawatts—1 megawatt equals 1,000 kilowatts or 1,000,000 watts)

	Maximum turbine Rating—MW
1900	1.5
1920	60
1930	[1] 208
1940	[1] 208
1950	[1] 208
1956	260
1958	335
1960	450
1963	650
1965	[2] 1,000

[1] Represents a single unit. More typically, maximum prevailing sizes were 75 mw in 1930, 100 mw in 1940, and 175 mw in 1950.

[2] Under construction.

[110] Petitioners point out that in 1920, the total generating capacity of all steam plants in the United States was 8,900 megawatts, Edison Electric Institute, *Historical Statistics of the Electric Utility Industry* 4 (Pub. No. 62-69, 1969); by 1971, total installed capacity of conventional steam plants was 298,345 megawatts, Edison Electric Institute, *Statistical Year Book of the Electric Utility Industry for 1971*, at 6-7 (No. 39, Pub. No. 72-25, Oct. 1972).

[111] The 120 billion gallons a day needed by 1971, *see* note 20 *supra* and accompanying text, is an increase over an esti-

Corners plant will withdraw (often permanently) such large amounts of water [112] that the "power potential" of majority waterways will be affected adversely to an extent greater than that of hydroelectric facilities. Thus, private power interests, petitioners argue, have succeeded in appropriating the power potential in public waters just as their predecessors did in the first part of this century when they built at will upon public lands and in navigable waters. The Supreme Court, it is argued, was not apprised in the *Taum Sauk* case of the extent of water consumption of modern steam plants and the resulting impact on our water resources.

In view of these developments, petitioners argue, FPC licensing jurisdiction should be expanded to effectuate the regulatory scheme envisioned by Congress when it enacted the Federal Water Power Act. The Act was intended to close the regulatory gap [113] created by piecemeal legislation that had served very narrow interests in the comprehensive management of water resources. Accordingly, it must be read to comprehend the regulation of steam plants so that the congressional purpose of promoting orderly development will not be frustrated.

Finally, petitioners argue that an "independent federal agency responsible for regulating a particular industry is given a broad mandate to do all things neces-

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mated 178 million gallons of cooling water needed on a daily basis in 1920. This latter figure is the product of 8,900 megawatts (*see* note 110 *supra*) by 20, which represents the number of gallons per kilowatt per day utilized by inefficient steam plants. *See* Staff of Joint Congressional Comm. on Economics, 91st Cong., 2d Sess., *The Economy, Energy, and the Environment* 99 (Comm. Print 1970).

[112] *See* note 27 *supra* and accompanying text.

[113] *Cf. Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672 (1954).

sary to implement its mandate." [114] This implied "necessary and proper" power encompasses the power of an agency to take account of technological developments that render existing regulatory practices obsolete,[115] and to adjust its operations to govern specific evils not named within its enabling act but clearly anticipated by a flexible statutory command.[116] The Federal Water Power Act, as amended, has given the FPC a "flexible mandate . . . to regulate the interstate electric power industry" and "to institute comprehensive planning for the nation's waterways," [117] and to this end it is necessary that the Commission license and regulate modern-day steam plants, which "threaten to resurrect the evil that regulation was supposed to thwart." [118]

The argument, despite its undeniable appeal, nevertheless, fails. Our natural reluctance to reject explicit language of the Supreme Court—language which, albeit obiter dictum, commanded unanimous agreement of the Justices—is reinforced by several factors. First, of course, the FPC does not have a broad, abstract mandate either to regulate the electric power industry or to engage in comprehensive planning for the utilization of our major waterways. In contrast, the Federal Communications Commission has "broad responsibilities for the orderly development of an appropriate system of local television broadcasting," [119] responsibilities derived from the "uni-

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[114] Petitioners' brief at 42.

[115] *See, e.g., United States v. Southwestern Cable Co.*, 392 U.S. 157 (1968).

[116] *See, e.g., American Trucking Ass'n v. United States*, 344 U.S. 298 (1953).

[117] Petitioners' brief at 44, 45.

[118] Petitioners' reply brief at 24.

[119] *United States v. Southwestern Cable Co.*, 392 U.S. 157, 177 (1968).

fied and comprehensive regulatory system for the [broadcasting] industry" established by the Communications Act of 1934, 47 U.S.C. § 151 et seq. (1970).[120] The Federal Water Power Act of 1920 was intended to promote the comprehensive development of the Nation's water resources in the context of regulating hydroelectric power; "the comprehensive development of water power . . . was the central thrust of the Act . . . ."[121] It could not be seriously contended, for example, that § 4(e) of the Act empowered the FPC to license the improvement of a tributary of a navigable river for purposes of navigation or flood control or irrigation in the absence of the development of power from the project.[122] Similarly, although under the holding of the *Taum Sauk* case, the FPC can license hydroelectric plants on nonnavigable waters if the plants transmit their power in interstate commerce, the agency was not authorized to regulate generally the interstate transmission and sale of electricity by nonlicensees until the Act was amended in 1935.[123] The 1920 Act thus did not direct the FPC to

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[120] *Id.* at 168.

[121] *FPC v. Union Electric Co.*, 381 U.S. 90, 101 (1965).

[122] Indeed, the literal language of § 4(e) precludes such a contention. Under that section, the Commission can license project works "necessary or convenient for the development and improvement of navigation *and* for the development, transmission, and utilization of power . . . ." (Emphasis added.)

[123] *See, e.g., United States v. Public Utilities Comm'n of Calif.*, 345 U.S. 295 (1953). It is interesting to observe that in the California PUC case, the Court, in rejecting the argument that the regulatory jurisdiction conferred on the FPC by the 1935 amendments did not include jurisdiction over the transmission of electricity by companies licensed under the 1920 Act, appeared to assume that only hydroelectric projects could be licensed: "not once is [the rate authority granted to the agency by the 1935 amendments] spoken of as one con-

regulate broadly the Nation's electric power industry or its major waterways, and we cannot conclude that recognizing Commission jurisdiction over steam plants is essential to fulfillment of the agency's congressional mandate.

Second, we agree that modern steam plants are of a size and efficiency unknown at the time of the passage of the Federal Water Power Act, that they use correspondingly more water for cooling purposes, and that the earlier plants returned most of their cooling waters to the water source instead of evaporating it. Still most of the electric power produced in this country at the time the Act was passed was generated by water-cooled steam plants.[124] Thus, any legislation intended to regulate comprehensively the interrelationship between the production of power and the efficient management of water resources would surely have taken account of the existence of these water-using steam plants. Congress' failure to do so refutes the argument that the FPC should regard steam plants as an unspecified or unanticipated method of operation whose regulation should now be undertaken as an obvious part of the congressional scheme. Steam plants were purposely omitted from the congressional scheme, and we cannot rewrite the statute to correct what may have been legislative shortsightedness.

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ditioned on the electricity concerned having been produced by steam generators or at unlicensed dams." 345 U.S. at 308.

[124] In 1920, of the approximately 50 billion kilowatt hours of electricity generated in the United States, about 70% was produced by steam power. Edison Electric Institute, *Statistical Year Book of the Electric Utility Industry for 1971*, at 17 (No. 39, Pub. No. 72-25, Oct. 1972); 1 FPC, *National Power Survey* 63 (1964). Although petitioners concede that most steam plants in 1920 were water-cooled, instead of air-cooled, they point to the insignificant water use of those plants compared with the use of modern plants. *See* notes 110-11 *supra*.

The limits of this part of petitioners' argument may well have been reached in the *Taum Sauk* case and other cases[125] in which it was recognized that the FPC is empowered to license pumped-storage plants, which utilize fossil fuel to pump water into reservoirs and then permit the water to fall to generate power during peak periods. The majority of the Court in the *Taum Sauk* case thought the distinction between steam plants and pumped-storage plants, in terms of the "power potential in water," an "obvious" and "meaningful" one; and, although three justices disagreed, it is interesting to observe that the dissent thought the relevant comparison to be between the pumped-storage plant's utilization of fossil fuel to elevate water for storage purposes and the steam plant's utilization of fossil fuel to heat water for generating purposes.[127] If the "power potential in water" is not involved when water is heated to drive a turbine, there would appear to be less warrant to conclude that it is involved when water is used in the post-generation, cooling process.[128] And there would be no

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[125] *See, e.g., Scenic Hudson Preservation Conf. v. FPC*, 354 F.2d 608 (2d Cir. 1965), *cert. denied, sub. nom. Consolidated Edison Co. v. Scenic Hudson Preservation Conf.*, 384 U.S. 941 (1966). *On remand*, 44 F.P.L. 350 (1970), *aff'd*, 453 F.2d 463 (2d Cir. 1971), *cert. denied*, 407 U.S. 926 (1972).

[126] 381 U.S. at 110.

[127] 381 U.S. at 115 (Goldberg, J., dissenting).

[128] We are aware, as petitioners point out, that the use of cooling waters is necessary to increase the efficiency of the generating process:

> This cooling process is a matter not of convenience but of economic necessity. As the steam is exhausted into the condenser and cooled by the water, it condenses to liquid, thus occupying a smaller space than it did formerly and producing a partial vacuum. This vacuum at the exhaust of the turbine permits the entering high-pressure steam to undergo greater expansion, and hence deliver

warrant to conclude that the mere extraction of water, with a consequent decrease in the amount of water available to downstream users for power generation, utilizes the "power potential in water" in a manner impinging on the FPC's licensing jurisdiction.

We are not unsympathetic to petitioners' position. It is somewhat anomalous that the FPC exercises stringent controls over the construction and operation of the great majority of the nation's hydroelectric installations,[129] not operated by federal agencies, but at the same time has no comparable authority with respect to non-hydroelectric installations which in 1971 generated over 80% of the electricity produced in the United States,[130] and utilized large quantities of water in doing so. In this

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more energy to the turbine rotor, than if it expanded only to the pressure of the atmosphere. Roughly, the over-all efficiency of producing useful work from high-pressure steam can be in the 40 to 50 per cent range if the exhaust steam is condensed by use of cooling water, whereas it will be only 30 to 40 per cent if the turbine exhaust is directly to the atmosphere . . . .

P. Cootner & O. Lof, *Water Demand for Steam Electric Generation* 8-9 (1965).

[129] As of 1964, the FPC had licensed about 76% of the conventional, nonfederal hydroelectric capacity of the United States. 1 FPC, *National Power Survey* 101 (1964).

[130] Edison Electric Institute, *Statistical Year Book of the Electric Utility Industry for 1971*, at 2, 18-19 (No. 39, Pub. No. 72-25, Oct. 1972), gives the following figures for 1971:

Total electric power generation (kwh in millions)	1,613,936
Hydro	266,320
Conventional Steam	1,303,465
Nuclear Steam	37,899
Internal Combustion	6,252

age of pervasive federal regulation and of heightened awareness of environmental considerations, it is difficult to comprehend that there should be no federal agency or policy governing the siting and operation of fossil-fueled steam plants. One looks in vain through an array of state and federal legislation for a unified, comprehensive regulatory scheme governing power plant siting.[131] Apart from the Federal Power Act and the Atomic Energy Act, 42 U.S.C. §§ 2011-296 (1970),[132] regulating the construction and operation of hydroelectric plants and nuclear-powered steam plants by the FPC and the Atomic Energy Commission, respectively, federal controls over various aspects of electric power plants are exercised under such diverse legislation as the Rivers and Harbors Act, 33 U.S.C. § 403 (1970), which requires a federal permit to obstruct or modify the course of navigable waters; the Federal Water Pollution Control Act, *as amended*, 33 U.S.C. §§ 1251-376 (Supp. II, 1971-72), which, *inter alia*, provides for the establishment of effluent limitations for navigable waters; the Air Quality Act of 1967, *as amended*, 42 U.S.C. §§ 1857-57*l* (1970), which, *inter alia*, establishes national ambient air quality standards for several pollutants; and provisions requiring federal approval for the leasing of Indian lands for the construction of power plants, 25 U.S.C. § 635 (1970), and for the location of transmission lines and rights of way

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[131] The siting problem is discussed in Journey, *Power Plant Siting—A Road Map of the Problem*, 48 Notre Dame Law. 273 (1972); Ramey & Murray, *supra* note 13; Smith, *supra* note 14; Tarlock, Tippy & Francis, *supra* note 13; Comment, *supra* note 13.

[132] For discussion of the role of the AEC in power plant construction and operation, *see Calvert Cliffs' Coordinating Comm., Inc. v. United States AEC*, 449 F.2d 1109 (D.C. Cir. 1971); Journey, *supra* note 131, at 281; Smith, *supra* note 14, at 172-73; Tarlock, Tippy & Francis, *supra* note 13, at 523-29, 533-39.

across Indian lands, 25 U.S.C. § 323 (1970), national parks, 16 U.S.C. § 5 (1970), or national forests, 16 U.S.C. § 522 (1970).[133] Under the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 et seq. (1970), the decisions made by federal officers must include consideration of environmental factors and must be accompanied by the completion of certain procedural steps including the filing of environmental impact statements.[134] In addition, there may be federal legislation peculiarly applicable to the operations of particular power plants, such as the extensive regulation of withdrawals of water from the Colorado River system.[135] But there is no comprehensive federal legislation governing the

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[133] For discussion of these various statutes and their relationship to power plant siting, see Tarlock, Tippy & Francis, *supra* note 13, at 513-39; Comment, *supra* note 13, at 84-92; Comment, *supra* note 28, at 708-11, 712-15.

[134] *See, e.g., Environmental Defense Fund v. TVA*, 468 F.2d 1164, 1173-76 (6th Cir. 1972); *Calvert Cliffs' Coordinating Comm., Inc. v. United States AEC*, 449 F.2d 1109, 1112-15 (D.C. Cir. 1971); Tarlock, Tippy & Francis, *supra* note 13, at 533-39; Comment, *supra* note 28, at 709-10.

[135] The Colorado River is apportioned between the Upper and Lower Basin states by the Colorado River Compact, *see* 70 Cong. Rec. 324 (1928), and among the states within the basin by the Upper Basin Compact, 63 Stat. 31 (1949), and the Boulder Canyon Project Act, 43 U.S.C. §§ 617-17u (1970). *See Arizona v. California*, 373 U.S. 546 (1963). In times of shortage, the Secretary of the Interior has authority to allocate the waters among the states and among the users of each state. *See Arizona v. California, supra*, 373 U.S. at 579-90. Other federal controls over the flow of the river are provided by the Mexican Water Treaty, T.S. 994, 59 Stat. 1219; the Colorado River Storage Project Act, 43 U.S.C. §§ 620-620o (1970); and the Colorado River Basin Project Act, 43 U.S.C. §§ 1501-56 (1970). For a history and discussion of the Colorado River legislation, see H.R. Rep. No. 1312, 90th Cong., 2d Sess. (1968), in 3 U.S. Code Cong. & Ad. News 3666 (1968).

siting or operations of fossil-fueled power plants. Regulation such as it is,[136] is piecemeal and fortuitous. And, federal regulation is complicated by the existence of numerous state commissions having varied responsibilities for plant siting.[137]

It may be, as petitioners argue, that the FPC is the logical agency to design and implement a national siting policy. The Commission has had over 50 years of experience licensing hydroelectric facilities, and since 1935 has engaged in extensive supervision of bulk power suppliers. The Commission is developing an expertise, accelerated by several important judicial decisions,[138] in dealing with environmental problems arising in connection with the construction of power facilities. Indeed, the Commission agrees that it should be the primary

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[136] *See* Comment, *supra* note 28.

[137] For discussion of state regulation of plant siting, see Tarlock, Tippy & Francis, *supra* note 13, at 539-53; Comment, *supra* note 28, at 711-17. A table of state siting laws is contained in Journey, *supra* note 131, app. B.

[138] *See Udall v. FPC*, 387 U.S. 428 (1967); *Greene County Planning Bd. v. FPC*, 455 F.2d 412 (2d Cir.), *cert. denied*, 409 U.S. 849 (1972); *Scenic Hudson Preservation Conf. v. FPC*, 354 F.2d 608 (2d Cir. 1965), *cert. denied sub nom. Consolidated Edison Co. v. Scenic Hudson Preservation Conf.*, 384 U.S. 941 (1966), *on remand*, 44 F.P.C. 350 (1970), *aff'd*, 453 F.2d 463 (2d Cir. 1971), *cert. denied*, 407 U.S. 926 (1972); *Pacific Gas & Electric Co.*, 44 F.P.C. 198 (1970); *Arkansas Power & Light Co.*, 40 F.P.C. 522 (1968); *Susquehanna Power Co.*, 32 F.P.C. 826 (1964); *Minnesota Power & Light Co.*, 32 F.P.C. 1407; *PUD No. 1 of Skamania County, Wash.*, 32 F.P.C. 444 (1964); *Puget Sound Power & Light Co.*, 28 F.P.C. 718 (1962); *Citizens Utilities Co.*, 21 F.P.C. 455 (1959); *Namekagon Hydro Co.*, 12 F.P.C. 203 (1953), *aff'd sub. nom. Namekagon Hydro Co. v. FPC*, 216 F.2d 509 (7th Cir. 1954). *See generally* Tarlock, Tippy & Francis, *supra* note 13, at 515-20; Note, *Of Birds, Bees, and the FPC*, 77 Yale L.J. 117 (1967).

certifying agency for plant siting. Its Chairman has advocated such authority [139] on many occasions and the agency has supported several bills introduced in Congress in the past decade providing for federal control over the construction and operation of fossil-fueled power plants and related facilities.[140]

Notwithstanding the foregoing, and quite apart from the practical problems of implementation and administration of the extensive licensing authority that petitioners would have us bestow upon the FPC,[141] adoption of the

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[139] *See* Hearings on H.R. 5277 and Related Bills Before the Subcomm. on Communications of the Senate Comm. on Interstate Commerce, 92d Cong., 1st Sess., pt. 2, at 426-27 (1971) (testimony of FPC Chairman Nassikas); Nassikas, *Coordination of Electric Power and Environmental Policy*, 4 Nat. Res. Law. 268 (1971).

[140] In its 1962 and 1966 annual reports, the Commission recommended that the Federal Power Act be amended to give it licensing jurisdiction over diversion facilities of steam plants. *See 1962 Annual Report of the FPC* 12-13; *1966 Annual Report of the FPC* 8-9. Among the bills introduced in Congress over the past few years that the Commission has favored are H.R. 12585, 91st Cong., 1st Sess. (1969); S. 4421, 91st Cong. 2d Sess. (1970); H.R. 6971, 92d Cong., 1st Sess. (1971); H.R. 5277, 92d Cong., 1st Sess. (1971). For description and analysis of the major siting proposals of recent years, see Journey, *supra* note 131, at 281-302; Ramey & Murray, *supra* note 13, at 38-43; Smith, *supra* note 14, at 182-95; Tarlock, Tippy & Francis, *supra* note 13, at 553-67.

[141] *Cf.* the problems encountered by the FPC in attempting to regulate the sales of natural gas by local producers to interstate pipeline companies after the decision in *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672 (1954): the Court later referred to these attempts as "the outstanding examples in the federal government of the breakdown of the administrative process." *Permian Basin Area Rate Cases*, 390 U.S. 747, 758 (1968).

Power plant siting is an extraordinarily complex process requiring the integration of many different factors. *See* au-

position they assert would accomplish by judicial fiat what Congress has refused or neglected to accomplish when it enacted and later amended the Federal Water Power Act. We are restricted to the statute as written by the Congress, illuminated by legislative history, and construed by the Supreme Court. It is not our function either "to rewrite a statute so that it will authorize what [we think] should be authorized"[142] or to "write into an act of Congress a provision which Congress affirmatively omitted."[143] These canons would be violated if we were to order the FPC to assert jurisdiction over fossil-fueled steam plants. The arguments made by petitioners would be better addressed to the Congress, which has not yet decided to provide explicitly for federal regulation of power plant siting.

III.

In addition to the nonfederal construction and operation of hydroelectric project works, § 4(e) empowers the FPC to issue licenses "for the purpose of utilizing the surplus water or water power from any Government dam . . . ." Petitioners contend that two of the Four Corners plants—Navajo and Kaiparowitz—will withdraw water directly from impoundments created by a Government dam, and that the other four plants are

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thorities cited in note 131 *supra*. FPC Chairman Nassikas has indicated that any effective legislative scheme for plant siting should provide for a transitional period to assure continuity of bulk power supply and the financing of projects already in the planning stages. *See* Hearings on Powerplant Siting and Environmental Protection Before the Subcomm. on Communications and Power of the House Comm. on Interstate and Foreign Commerce, 92d Cong., 1st Sess. 26-27 (1971).

[142] *Story v. Snyder*, 181 F.2d 454, 459 (D.C. Cir.), *cert. denied*, 340 U.S. 866 (1950).

[143] *Border Pipe Line Co. v. FPC*, 171 F.2d 119, 152 (D.C. Cir. 1948).

downstream from Government dams and will have water available on a dependable basis only because of the "stream regimen imposed by upstream government dams." [144] According to petitioners, these are usages of "surplus water" that invoke Commission jurisdiction under § 4(e) and require the Commission to regulate the operations of the Four Corners plants. We agree that § 4(e) empowers the FPC to license the use of surplus water by steam plants, and accordingly we remand to the Commission for consideration of petitioners' "surplus water" claim.[145]

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[144] Petitioners' brief at 9.

[145] Although intervenors contend otherwise, the Commission in its brief to us concedes that, with respect to the Navajo and Kaiparowitz plants, petitioners preserved their "surplus water" argument in their application for rehearing as required by § 313(b) of the Federal Power Act, 16 U.S.C. § 825*l*(b) (1970), as a precondition to our consideration of the claim. Intervenors and respondent assert, however, that neither the complaint nor the rehearing application raised the question of the applicability of the "surplus water" clause to the four plants not withdrawing water directly from Government impoundments, and they contend that we may not consider the claim as it relates to those plants. In the posture of this case, and in view of our resolution of the "surplus water" issue, it makes little difference whether we agree with this contention; petitioners can simply file an amended complaint setting forth the downstream claim, and the FPC will consider it in the first instance just as it will consider the primary "surplus water" claim. Further, we think that intervenors' and respondent's position is not well taken. The policy of § 313(b) of affording an agency the opportunity to consider and determine a question, *see, e.g., FPC v. Colorado Interstate Gas Co.*, 348 U.S. 492, 499 (1954), was clearly satisfied because Commission rejection (by silence) of the primary "surplus water" claim obviously amounted to a rejection of the secondary claim. And, because petitioners could file an amended complaint raising the secondary claim, the issue would be before us at a future date. Accordingly, the exhaustion requirement of § 313(b) would be inapplicable in this case.

As they do with respect to their broader claim under § 4(e), petitioners rely on the literal language of the Act to support their contention that the FPC is empowered to license the operations of the Four Corners plants. Quite simply, they contend, the plants utilize "surplus water" from Government dams for purposes of generating power.[146] Petitioners accept the following definition of "surplus water" offered by the Commission in a case involving a hydroelectric project downstream from a Government dam:

> Where there is available stored water not to be used in irrigation, which represents storage over and above that needed for irrigation, and which would otherwise flow unused down the main channel of the stream, that water is "surplus water," and, if used for power development, would require a license from this Commission.[147]

Petitioners also point out that under the FPC's own determination, the surplus water need not be withdrawn directly from a Government impoundment in order to trigger FPC licensing jurisdiction:

> It . . . appears immaterial to the Commission's licensing authority under the "surplus water" clause of section 4(e), whether hydroelectric developments utilizing the surplus water from a Government dam are constructed at, or in the immediate vicinity, or several miles downstream from the Government dam. On the other hand, the Commission's licensing authority with respect to hydroelectric development utilizing "water power" from Government dams is limited by natural laws to those developments at or in the vicinity of such dams. The natural laws re-

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[146] Petitioners point out that the use of cooling water is a necessary part of the power generation process. *See* note 128 *supra.*

[147] *California Oregon Power Co.*, 13 F.P.C. 1, 4 (1954), *supplemental opinion*, 15 F.P.C. 14 (1956), *petition dismissed*, 239 F.2d 426 (D.C. Cir. 1956).

> lating to the use of "water power" are such that its utilization may only be at the dam when the power house is integral therewith, or at the downstream end of a pressure conduit leading from the intake to the turbines in the power house. Thus, the "water power" utilized at or in the vicinity of a dam is the result of the head and flow there available.
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> . . . [W]e have found nothing in the language of the act, or in its legislative history, which leads us to believe that the Commission's licensing authority under the "surplus water" clause of section 4(e) is limited to hydroelectric power projects located at or in the immediate vicinity of a Government dam.[148]

Accordingly, petitioners argue, giving the language of the "surplus water" clause its ordinary meaning, reading it disjunctively to the "constructing, operating, and maintaining" clause of § 4(e), and following the Commission's own definitions, all six Four Corners plants are utilizing "surplus water" within the intendment of the Federal Power Act.

Respondent Commission argues that Congress intended the Federal Water Power Act to apply only to water power projects, as indicated by the Act's legislative history, and that steam plants are not "project works" within the Commission's licensing authority. Intervenors contend that the "surplus water" provision applies only to hydroelectric plants utilizing surplus water or water power from Government dams.

We think that the Commission and intervenors construe the "surplus water" clause too narrowly. Initially, it should be observed that the "surplus water" clause does not refer to the licensing of "project works" as does the "constructing, operating, and maintaining" clause. The words "project works" in the latter clause

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[148] *California Oregon Power Co.*, 15 F.P.C. 14, 19 (1956), *petition dismissed*, 239 F.2d 426 (D.C. Cir. 1956).

follow the words "for the purpose of," and they are not found at all in the "surplus water" clause even though that clause is introduced by a second "for the purpose of." By their terms, then, the two licensing provisions of § 4(e) encompass different activities, and it does not follow that the limitation of the reach of the "constructing, operating, and maintaining" clause of hydroelectric projects requires reading a similar limitation into the language of the "surplus water" clause.

Second, unlike the situation with respect to the "constructing, operating, and maintaining" clause, there is little in the way of extrinsic illumination of the congressional purpose in enacting the "surplus water" clause. There is no judicial decision on its scope; the FPC decisions quoted above interpret the clause in the context of proposed hydroelectric developments;[19] and there apparently is no useful legislative history. What little extrinsic assistance we have been able to piece together, however, tends to show that the language of the "surplus water" clause does indeed mean what it says.

In a line of cases extending back almost thirty years before the passage of the Federal Water Power Act, the Supreme Court confirmed the power of Congress to dispose of the water power inherent in waters over which Congress had jurisdiction, either by generating and selling the power itself or by permitting others to do so.

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[19] The Commission has in the past permitted its licensees to allow waters impounded by their reservoirs to be used for cooling purposes by steam plants, *e.g.*, *Arkansas Power & Light Co.*, 40 F.P.C. 522 (1968); *Duke Power Co.*, 36 F.P.C. 675 (1966), but it has refused in such cases to construe its licensing authority to extend to the operations of the steam plants utilizing the waters, *e.g.*, *Brazos River Authority*, 34 F.P.C. 1507, 1509 (1965). Of course, these decisions involved the "constructing, operating, and maintaining" clause, not the "surplus water" clause.

The basic principle was established in the first *Green Bay* case, *Kaukauna Water Power Company v. Green Bay and Mississippi Canal Company*, 142 U.S. 254 (1891), in which the Court recognized that a state could, consistent with its power to condemn property for a public purpose, reserve for itself for disposition as it saw fit the water power created by the erection of a dam under state auspices for purposes of improving navigation. The Court reasoned that

> if, in the erection of a public dam for a recognized public purpose, there is necessarily produced a surplus of water, which may properly be used for manufacturing purposes, there is no sound reason why the State may not retain to itself the power of controlling or disposing of such water as an incident of its right to make such improvement. Indeed, it might become very necessary to retain the disposition of it in its own hands, in order to preserve at all times a sufficient supply for the purposes of navigation. . . . As there is no need of the surplus running to waste, there was nothing objectionable in permitting the State to let out the use of it to private parties, and thus reimburse itself for the expenses of the improvement.[150]

Seven years later, the Court applied this principle in the second *Green Bay* case, *Green Bay and Mississippi Canal Company v. Patten Paper Company*, 172 U.S. 58 (1898), *rehearing denied*, 173 U.S. 179 (1899), to uphold the right of a grantee of the United States to lease the surplus water power from Government navigation works to other private parties, against a claim by certain riparian owners that they were entitled under state law to an equal apportionment of the water flow and hence of the water power inherent in the river. Describing the case as one involving "water power incidental to the construction and maintenance of a public

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[150] 142 U.S. at 273.

work and, from the nature of the case, subject to the control of the public authorities, in this instance the United States," [151] the Court relied heavily on the first *Green Bay* case to hold that the grantee's right to the water power created by the works was superior to the riparian rights recognized under state law:

> . . . [I]t is . . . plain that the mode and extent of the use and enjoyment of [the water power and appurtenant property] by the Canal Company fall within the sole control of the United States. At what points in the dam and canal the water for power may be withdrawn, and the quantity which can be treated as surplus with due regard to navigation, must be determined by the authority which owns and controls that navigation. In such matters there can be no divided empire.[152]

It was but a short step to the decision in *United States v. Chandler-Dunbar Water Power Company*, 229 U.S. 53 (1913), in which the Court rejected the argument that a federal condemnation of certain riparian property for purposes of improving navigation did not amount to a taking for a public purpose because a section of the condemnation act authorized the Secretary of War to sell the surplus water power after the Government had made the navigation improvements. The Court considered the question largely settled by the decision of the first *Green Bay* case that "[i]f the primary purpose is legitimate, we can see no sound objection to leasing any excess of power over the needs of the Government." [153] The Government, in a word, could become a water power entrepreneur once it had constructed a dam for a legitimate public purpose.

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[151] 172 U.S. at 76.

[152] 172 U.S. at 80.

[153] 229 U.S. at 73.

However, the "development of our rivers by no means kept pace with the scope of congressional power as defined by the Supreme Court decisions." [154] Congress was slow to appreciate the value of multiple-purpose waterway projects, in particular the tremendous value, from both a pecuniary and a functional standpoint, of the water power within its control. There were a few exceptions. An early act allowed the Secretary of War to lease the water power at a federal arsenal to a private water power company on condition that the company complete the development of the power and maintain it at its own expense.[155] Another early act authorized projects combining irrigation and flood control.[156] In addition, several appropriations bills contained provisions permitting the leasing of the use of the water power of certain navigable waterways, limited to the use of surplus water not required for navigation, with the stipulation that the interests of navigation remain paramount.[157] But, in the Reclamation Act of 1902,[158] under which the Government became involved in the large-scale construction of irrigation works on the public lands in the West, no provision was made for the disposition of water power created by the reclamation dams.

During Theodore Roosevelt's administration, however, a number of significant developments occurred. In 1906, the Reclamation Act was amended to allow the Secretary of the Interior to lease surplus water power:

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[154] Fly, *supra* note 34, at 279.

[155] Act of March 3, 1879, ch. 182, 20 Stat. 377, 387.

[156] 25 Stat. 505, 526 (1888); *see* Fly, *supra* note 34, at 287.

[157] Act of August 11, 1888; ch. 860, 25 Stat. 400, 417; Act of September 19, 1890, ch. 907, 26 Stat. 426, 447; Act of June 28, 1902, ch. 1299, 32 Stat. 408, 409.

[158] 32 Stat. 388, *as amended*, 43 U.S.C. §§ 371 et seq. (1970).

> Whenever a development of power is necessary for the irrigation of lands . . . or an opportunity is afforded for the development of power under any [reclamation] project, the Secretary of the Interior is authorized to lease for a period not exceeding ten years, giving preference to municipal purposes, any surplus power or power privilege . . . . *Provided*, That no lease shall be made of such surplus power or power privileges as will impair the efficiency of the irrigation project . . . .[159]

After this amendment, the Government became involved in the business of generating hydroelectric power, primarily because of the works constructed for pumping purposes at reclamation projects,[160] and the principle of sale of surplus water power was introduced to Government projects bearing no necessary relation to navigation. President Roosevelt, in his several vetoes of power site bills and his appointments of commissions such as the Inland Waterways Commission,[161] made clear that the development of water power should be used by the Government to defray the cost of waterway improvement, and that efficient water resource management required the integration of many water uses in single projects.[162] Condemnation acts such as that involved in the *Chandler-Dunbar* case, *supra*, began to incorporate provisions authorizing the Government to develop water power for its own use or lease at Government projects intended primarily to accomplish other purposes.

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[159] Act of April 16, 1906, ch. 1631, § 5, 34 Stat. 117, *as amended*, 43 U.S.C. § 522 (1970).

[160] *See Burley Irrigation Dist. v. Ickes*, 116 F.2d 529, 530-32 (D.C. Cir. 1940), *cert. denied*, 312 U.S. 687 (1941); 1 FPC *National Power Survey* 100 (1964).

[161] *See* note 45 *supra*.

[162] *See* Fly, *supra* note 34, at 290.

In the second decade of this century, the soundness of President Roosevelt's position on water resource development became increasingly recognized. Legislative developments included the 1910 amendment to the General Dam Act,[163] and another amendment to the Reclamation Act, which provided that surplus storage and carrying capacity developed in a particular reclamation project could be utilized on a contractual basis by other distributors of irrigation waters.[164] A Senate subcommittee report issued in 1912 declared:

> If, for the purpose of improving the navigability of a stream carrying interstate commerce, the Federal Government constructs and maintains a dam, with locks and gates, the Government has the undoubted right to establish and maintain, in connection with such dam, an electric-power plant for the purpose of furnishing motive power to operate such locks and gates. And the Federal Government has the right to sell, lease, or rent, for compensation, any surplus power that may arise from and be an incident to such an improvement of navigation.[165]

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[163] *See* note 49 *supra* and accompanying text.

[164] Act of February 21, 1911, ch. 141, 36 Stat. 925, codified in 43 U.S.C. §§ 523-25 (1970).

[165] 48 Cong. Rec. 11,568, 11,571 (1912), subsequently published as Sen. Doc. No. 246, 64th Cong., 1st Sess. 17 (1916), quoted in Fly, *supra* note 31, at 290. One year after the decision in *United States v. Chandler-Dunbar Water Power Company*, 229 U.S. 53 (1913), the Adamson Bill, H.R. 16053, 63d Cong., 2d Sess. (1914), was introduced in Congress as the first of the bills leading to the enactment of the Federal Water Power Act. It contained a provision authorizing the leasing of surplus power developed by Government water power plants. *See* Kerwin, *supra* note 31, at 175. In 1916, Senator Newlands attempted to amend the Shields Bill to provide an appropriation for developing multiple-purpose waterway projects and formulating plans for comprehensive development of the major river system. *See* 53 Cong. Rec. 3733-36 (1916); Fly, *supra* note 31, at 292; Kerwin, *supra* note 31, at 205-16.

In 1917, a rivers and harbors appropriation act created a Waterways Commission to coordinate the various bureaus and commissions of the United States with responsibility for water resources, to investigate questions relating to the improvement and control of navigation with respect to all watersheds in the United States, and to include

> therein the related questions of irrigation, drainage, forestry, arid and swamp land reclamation, clarification of streams, regulation of flow, control of floods, utilization of water power, prevention of soil erosion and waste, storage, and conservation of water for agricultural, industrial, municipal, and domestic uses, cooperation of railways and waterways, and promotion of terminal and transfer facilities, to secure the necessary data, and to formulate and report to Congress, as early as practicable, a comprehensive plan or plans for the development of waterways and the water resources of the United States for the purpose of navigation and for every useful purpose.[166]

The Act of 1917 was explicitly repealed by the Act of 1920,[167] and the newly created Federal Power Commission took over the planning and coordination responsibilities of the Waterways Commission,[168] which included consideration of a spectrum of water uses not related to water power.

The Federal Water Power Act of 1920 thus represents the culmination of many different pressures. Technological advances made it imperative that huge water-

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[166] Act of August 8, 1917, ch. 49, 40 Stat. 250, 269. *See* Starr, *supra* note 35, at 180; Walker & Cox, *Jurisdiction of the Federal Power Commission over Non-Power Water Uses*, 5 Land & Water L. Rev. 65, 73-74 (1970).

[167] Act of June 10, 1920, ch. 285, § 29, 41 Stat. 1077.

[168] *See, e.g.*, 16 U.S.C. § 797(a) (1970).

works be designed to perform several functions.[169] The federal government was becoming more involved in the construction of major water projects, and American entry into World War I precipitated projects such as the provision of water power for the munitions complex built during World War I on the Tennessee River near Muscle Shoals, Alabama.[170] The water resources, including the inherent water power, controlled by the Government were increasingly seen as a valuable asset to be exploited in a way that would benefit the public by insuring the self-sufficiency of projects and maximum use of public resources.

Accordingly, the Federal Water Power Act undertook to regulate the nonfederal exploitation of the nation's water power resources and the disposition of excess federally controlled water or water power. Section 4(e) assures maximum utilization of water resources for navigation, water power, and other beneficial uses by providing for the licensing, in accordance with § 10(a), 16 U.S.C. § 803(a),[171] of nonfederal construction and operation of water power projects on navigable waters, public

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[169] *See* Fly, *supra* note 34, at 287-88.

[170] *See Ashwander v. TVA*, 297 U.S. 288 (1936).

[171] 16 U.S.C. § 803(a) (1970) provides:

> All licenses issued under sections 792, 793, 795-818, and 820-823 of this title shall be on the following conditions:
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> (a) That the project adopted, including the maps, plans, and specifications, shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other beneficial public uses, including recreational purposes; and if necessary in order to secure such plan the Commission shall have authority to require the modification of any project and of the plans and specifications of the project works before approval.

lands, or reservations, and for the licensing of the nonfederal use either of water impounded by a Government dam in excess of the amount needed to accomplish the purpose of the dam or of actual hydroelectricity generated by a Government dam and not required for governmental purposes.

We are persuaded that the "surplus water" provision was intended to serve broader interests than the "constructing, operating, and maintaining" clause, which was intended only to regulate nonfederal hydroelectric projects. It reflects an explicit concern with utilizing water resources to defray the cost of waterway improvements as well as a concern with comprehensive water resource management. It empowers the FPC to license the use of either "surplus water" or "water power" from *any* Government dam, and thus is not limited to the mere leasing of excess Government water power. It is interesting to observe that three months before the Act was finally passed, Congress amended the Reclamation Act to authorize the Secretary of Interior "to enter into contract to supply water from any project irrigation system for other purposes than irrigation, upon such conditions of delivery, use, and payment as he may deem proper . . . ." [172] Since Congress was obviously concerned with maximizing the public benefit from Government waterworks, the inference arises that the addition of the words "surplus water" in § 4(d) of the Federal Water Power Act was intended to afford the FPC a broad licensing authority over federally controlled waters comparable to that afforded the Secretary of Interior in reclamation projects. The FPC could license either the use of "water power" —*i.e.*, electricity actually generated by the Government —or the use of "surplus water" for the private generation of water power or other purposes. This would obvi-

[172] Act of February 25, 1920, ch. 86, 41 Stat. 451, codified in 43 U.S.C. § 521 (1970).

ate the previous necessity of providing in specific acts relating to specific projects, that surplus water could be leased for power purposes and would also take account of the expanding governmental involvement in water resource use and development.

This interpretation, which gives effect to the literal language of § 4(e), is strengthened, somewhat paradoxically, by developments subsequent to the passage of the Federal Water Power Act that diluted Commission authority. In 1928, Congress passed the Boulder Canyon Project Act, 43 U.S.C. §§ 617-17u (1970), which authorized the first federal large-scale multiple-purpose project on a major waterway. The Act authorized the construction of what ultimately became Hoover Dam and other works, for purposes of flood control, navigation, and reclamation, and for generating electricity to make the project self-sufficient financially.[173] The Secretary of the Interior was empowered to contract for the storage and delivery of water "for irrigation and domestic uses, and generation of electrical energy and delivery at the switchboard to States, municipal corporations, political subdivisions, and private corporations of electrical energy generated at said dam, upon charges that will provide revenue which . . . will in his judgment cover all expenses of operation and maintenance incurred by the United States on account of works constructed under" the Act.[174] Under 43 U.S.C. § 617e. the Secretary of the Interior is authorized to lease units of any Government power plant of the project, with the right to generate electricity, and to lease "the use of water for the generation of electrical energy," in conformity with the requirements of the Federal Power Act and the rules and regulations of the Federal Power Commission. These provisions, although

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[173] *See* 43 U.S.C. §§ 617, 617e (1970).

[174] 43 U.S.C. § 617d (1970).

seemingly ousting the FPC of direct authority over the surplus water and water power of what would be a "Government dam" under the Federal Power Act, indicate the breadth of congressional concern with federal management of federal property to promote efficient water resource utilization. In 1933, the Tennessee Valley Authority was created to undertake duties in the Tennessee River basin comparable to those of the Secretary of Interior under the Boulder Canyon Project Act.[175] Under 16 U.S.C. § 831i, the T.V.A. is given the authority to sell the surplus power generated by it and not needed in its own operations.[176] Under the 1936 and 1944 Flood Control Acts, the Department of the Army is empowered to build and control dams and other improvements for purposes of flood control and navigation. 33 U.S.C. §§ 701 et seq. (1970). The Secretary of the Army is empowered to contract with states, municipalities, private concerns, and individuals "for domestic and industrial uses for surplus water that may be available at any reservoir under the control of the Department of the Army . . . ." [177]

Acts such as these obviously cut into FPC authority to regulate the utilization of surplus water or power, and it is apparent that in every case involving a contention of the applicability of the "surplus water" clause, the FPC will have to consider the interrelationship of its enabling act and the scope of the authority of the Government agency responsible for the particular Government dam.[178] But it is also apparent that Congress has for a long time been concerned with the controlled dis-

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[175] Act of May 18, 1933, ch. 32, 48 Stat. 58, *as amended*, 16 U.S.C. §§ 831-31dd (1970).

[176] *See Ashwander v. TVA*, 297 U.S. 288 (1936).

[177] 33 U.S.C. § 708.

[178] *Cf. United States ex rel. Chapman v. FPC*, 345 U.S. 153 (1953).

position of surplus federal water and power, and has often expressed this concern by granting plenary control over such disposition to a federal agency. We believe the "surplus water" provision of the Federal Power Act to be but an early manifestation of that concern. At a minimum, Congress surely intended to give the FPC control over the use of surplus waters for the generation of power, no matter by what mechanical force the electricty is ultimately produced.[179]

Accordingly, we hold that the Commission erred in dismissing petitioners' complaint, and we remand to the Commission to consider the surplus water claim. We do not decide whether the FPC does have jurisdiction over the four plants alleged to be the beneficiaries of Government surplus water by virtue of their being downstream from Government dams because we have no record on which to base such a determination.[180] We hold only that the Commission does have jurisdiction to license the utilization of surplus water by thermal-electric generating plants, and we leave to the Commission to determine in the first instance whether the plants involved in this appeal fall within the category asserted by petitioners. In determining this question, the Commission should also consider whether any jurisdiction it might have under the Federal Power Act is affected in any way by the jurisdiction of any other federal agency.

Remanded to the Federal Power Commission for further proceedings not inconsistent with this opinion.

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[179] It has been argued that the "surplus water" clause empowers the FPC to license nonpower uses of surplus federally controlled water. *See* Walker & Cox, *supra* note 166, at 70-75.

[180] *Cf. California Oregon Power Co. v. FPC*, 239 F.2d 426, 432 (D.C. Cir. 1956).